

Response to SEC Questions Regarding Exchange Traded Products
File Number S7-11-15

The SEC's Division of Trading and Markets has put forth some extremely important questions regarding exchange traded products ("ETPs"). Many of these questions were specific to arbitrage and market pricing, Exchange Act exemptions, exchange listing standards, broker-dealer sales practices and investor understanding of ETPs.

There is not publicly available data to answer all of the SEC's questions, but we are hopeful the following data-driven examination aids the SEC in resolving some of its issues. The SEC may decide the data raises additional important questions that need to be answered.

The following are the SEC questions asked for which we are providing data: a) Questions 3 and 6 - underlying assets of ETPs, b) Question 14 - suspension of ETP creations and redemptions, c) Question 16 - the functioning of ETP arbitrage mechanisms in times of stress, d) Question 17 - ETP trading activity affecting the underlying assets, e) Question 34 - types of ETPs that may be more susceptible to manipulation than others, f) Questions 38, 41 and 42 - sufficient information being disclosed to investors, g) Question 46 - the terminology used when describing ETPs, h) Question 52 - the rapid growth in market capitalization of ETPs, and i) Question 53 - observations and conclusions from the MIDAS data published by the SEC.

This submission contains some information that was previously supplied through a comment letter to the Financial Stability Oversight Council ("FSOC").¹ The industry has not responded to the data provided in the FSOC submission. Hopefully this SEC comment request period will provoke a serious discussion of the data and potentially underlying flaws of ETPs along with the risks to the U.S. economy posed by these products.

The 1929 market crash, the dot-com bubble, mortgage-backed securities crisis, the financial crisis of 2008 and the current China market crisis all stemmed from hazardous over-leveraging. As Sheila Bair, former Federal Deposit Insurance Corporation chairwoman, stated regarding the 2008 financial crisis:²

"Leverage was really a key driver of the crisis. **It's the reason why you ended up having to do bailouts.**"

The data shows many ETPs along with their underlying assets are illiquid. Some subsets of ETPs continue to grow in number when the liquidity only resides within very few securities. Leverage across various ETPs appears to be at dangerous levels, which will become apparent in the next financial downturn. In many respects, ETPs today resemble the over-leveraged risks that have created the past significant financial crises.

¹ Notice Seeking Comment on Asset Management Products and Activities, FSOC-2014-0001-0001, ID FSOC-2014-0001-0015 <http://www.regulations.gov/#!documentDetail;D=FSOC-2014-0001-0015>

² CNN Fortune article, *Sheila Bair: The one thing banking regulators should do now*, Nin-Hai Tseng, October 2, 2012 <http://finance.fortune.cnn.com/2012/10/02/sheila-bair-banks/>

In many cases, asset creations are not occurring and creations/redemptions are working in ways not expected or advertised for certain types of exchange traded funds (“ETFs”). Some products’ prices have moved in the opposite direction of their stated goals in temporary stressed market conditions and have even collapsed.

Securities lending is not keeping pace with the amount of short selling, which is increasing over-leveraged short positions.

The documentation, data, disclosures and prospectuses obtained by regulators and available to investors are not disclosing the extent of the excessive risks in these products. There appears to be significant omissions of material facts by some ETP operators.

U.S. blue chip companies are underlying assets for a significant number of ETPs. The interconnection of the growing number of derivative products based on the same assets suggests in a crisis market, significant stresses from these interconnected products may reverberate throughout the heart of the U.S. financial system, i.e. U.S. blue chip securities.

Author’s Comments

It is not important who supplied the information in this submission; the data comes from regulators, exchanges, ETP operators and ETP media sites promoted as researchers of ETP information. For the record, the SEC knows the authors of this submission and has had time to confirm the sources of the data.

We are taking a holistic view across various market metrics in this paper rather than just concentrating on a small subset of information, which is a consistent practice of ETP industry observers. In documents to regulators and investors, ETP operators consistently discuss the mechanics of the ETP itself, without talking about the secondary market trading for investors that ETPs create by design through their Authorized Participant business model. This model is flawed and investors in ETPs in the secondary markets are a significant focus of this submission.³

The market trading discussed herein (see data sources below the Summary Index) is being executed between investors and counterparties mostly consisting of Authorized Participants, market makers or clearing firms (which may be the same firms), which in many cases is not causing a net creation of shares (purchasing underlying assets) for certain important ETFs. In some ETPs, there is a conflict of interest between the investor and the contra parties in the secondary market.⁴

Anyone that has been critical of ETPs has been immediately attacked by the industry, without any factual data from the industry to support their positions. The strategy has simply been ‘attack the messenger’, which does not address the underlying problems within ETPs.

³ Generally, Authorized Participants are required to trade with the ETF only in large blocks of typically 50,000 share units. Authorized Participants are not obligated to create shares/assets. ETF operators do not have any authority to cause the creation of shares/assets by Authorized Participants.

⁴ For example, ETN underlying holdings are bank notes issued by major global banks, which may be in opposition to the investors interest, see Section 1 – Overview of Exchange Traded Products, Part D: Exchange Traded Notes.

This paper challenges the industry to actually address the data. It is designed to be read by regulators and financial industry experts familiar with ETPs. The data is based on long-term patterns and practices within the industry and shows the outcome of how ETPs are actually operating, not just a narrow industry view or study that distracts from serious flaws in ETPs.

The SEC, FSOC, CFTC, U.S. Treasury, the Federal Reserve and other global regulators are now concerned about different aspects of ETPs. These agencies appear to be ready for a serious discussion of the data. This will take input from the industry, not just simple responses to demean or deflect sophisticated ETP critics by saying they just do not understand how the products work. This industry answer alone raises significant red flags that ETPs may not be suitable for most investors.

The information below is not a 5 point bullet presentation because it is derived from data sets containing many millions of data points which are presented here in readable and hopefully understandable formats. As an example, we have assembled the short sale data from exchanges, which is so voluminous the SEC stated it was “unaware of the transaction-level data being widely used by any group other than academics,” and “data vendors informed the Division that they had not created products utilizing this data.” The SEC also stated “the Commission and other regulators lack direct access to the data necessary to quickly identify short sellers and short position holders.”⁵

The data and the systemic risks revealed from a holistic view of available information should be discussed before the next financial crisis. ETPs are currently golden eggs benefitting Authorized Participants, ETF operators, clearing firms and short selling, which could shatter the U.S. economy again. Temporary profits are not worth risking the soundness of the global financial system.

⁵ SEC Division of Economic and Risk Analysis Report, *Short Sale Position and Transaction Reporting*, June 5, 2014 <http://www.sec.gov/dera/reportspubs/special-studies/short-sale-position-and-transaction-reporting.pdf>

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Data Sources: The National Securities Clearing Corporation (NSCC), The NASDAQ Stock Market and its subsidiaries, The National Stock Exchange, FINRA’s Alternative Display Facility, BATS and Direct Edge Exchanges, FINRA’s NYSE Trade Reporting Facility, FINRA’s NASDAQ Trade Reporting Facility, Reuters, Investment Company Institute, ETF.com, ETF Channel, State Street Corporation, BlackRock Inc., ProShares, Invesco PowerShares, The U.S. Securities and Exchange Commission, The Financial Stability Oversight Council, FOCUS Reports (summarized by the SEC), Wetherill Investment Inc./ShortSqueeze.com, Morningstar, Inc., The World Federation of Exchanges and The World Bank.

Examination Periods: We have used the following as previous exhibits, therefore the tables, charts and data examined are for various periods and dates spanning from 2010 through 2015.

Section 1 – Overview of Exchange Traded Products

Systemic Risk from Illiquid ETPs and Improper Evaluations

As the SEC discussed, the ETPs marketplace has seen significant growth in the number of products and market capitalization. Just since the **May 2010 Flash Crash** when 27% of the 838 ETPs existing at that time imploded in price or became unhinged from their underlying securities pricing, the number of registered U.S. ETPs has nearly **doubled** from 838 to **1,663** as of December 31, 2014, which includes Exchange Traded Funds (“ETFs”) and Exchange Traded Notes (“ETNs”).⁶

Adding new ETPs that are mostly illiquid appears to have no benefit to the marketplace or investors. Moreover, using the same blue chip securities underlying many important ETFs for additional illiquid ETF products appears to only ***increase systemic risk*** to the very same ETFs and their underlying securities.

As of December 31, 2014, there were **more than 300 ETPs** based on U.S. large capitalization stocks. Of these, **85%** have an **average daily volume less than 1 million shares**. In other words, most of these products are relatively illiquid and the newest do not appear to be filling a product void/desire to trade and thus questions arise if the new products are ‘necessary or appropriate’.⁷

Whether it is realized or not, authorizations to trade ETPs by exchanges/self-regulatory organizations (“SROs”) suggests *legitimacy* of the product to investors, which is evidenced by the growing interest in ETFs (supplemented through the massive ETF advertising campaigns to investors discussed below).

Because the historical data from State Street is available, we examined 31 new State Street ETFs approved for trading since September 2012. They are all potentially illiquid in price and execution quality. Of the 31 State Street ETFs, the top 2 have an average daily volume of 108 and 43 thousand shares and the other 29 trade **less than 10 thousand shares each day.**⁸

Table 1 shows 17 example ETFs based on U.S. equities that were launched in 2014. Each of these 17 ETFs are based on total market or large capitalization stocks, i.e. they contain **the same blue chip stocks that are already underlying the largest and most significant ETFs.**

These 17 **new** ETFs in 2014 are illiquid, trading 75 thousand shares or less on average each day over the prior three months ending December 31, 2014.⁹

⁶ Raw data source: ETF.com

⁷ “Section 6(c) allows the Commission to exempt any person, security, or transaction, or any class thereof, only ‘if and to the extent that such exemption is necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of [the Act].’” Spruce ETF Trust, et al.; Notice of Application, Investment Company Act Release No. 31301; 812-13953, October 21, 2014, <http://www.sec.gov/rules/ic/2014/ic-31301.pdf>

⁸ Using the three month average daily volume provided by Reuters as of December 31, 2014.

⁹ Source: Reuters average daily volume as of December 31, 2014.

Table 1 – Example 2014 Illiquid Exchange Traded Products with Large Capitalization
Underlying Stocks as of December 31, 2014

Symbol	Name	Issuer	Launch Date	Segment	3 Month Average Daily Volume
RORO	SPDR SSgA Risk Aware	State Street	9/9/2014	Total Market	3,298
SYE	SPDR MFS Systematic Core Equity	State Street	1/8/2014	Large Cap	345
SYG	SPDR MFS Systematic Growth Equity	State Street	1/8/2014	Large Cap	247
SYV	SPDR MFS Systematic Value Equity	State Street	1/8/2014	Large Cap	231
DGRO	iShares Core Dividend Growth	BlackRock	6/10/2014	Total Market	75,086
NYCC	PowerShares NYSE Century	Invesco PowerShares	1/15/2014	Total Market	661
CFGE	Calamos Focus Growth	Calamos Investments	7/14/2014	Large Cap	1,195
CDC	Compass EMP US EQ Income Enhanced Volatility Weighted	Compass EMP	7/2/2014	Large Cap	18,038
CFA	Compass EMP US 500 Volatility Weighted	Compass EMP	7/2/2014	Large Cap	994
CFO	Compass EMP US 500 Enhanced Volatility Weighted	Compass EMP	7/2/2014	Large Cap	13,280
SPUU	Direxion Daily S&P 500 Bull 2x	Direxion	5/28/2014	Large Cap	20,461
FIA	Falah Russell-IdealRatings US Large Cap	Exchange Traded Concepts	10/8/2014	Large Cap	167
VUSE	Vident Core U.S. Equity	Exchange Traded Concepts	1/22/2014	Total Market	74,434
FTHI	First Trust High Income	First Trust	1/6/2014	Large Cap	2,061
FTLB	First Trust Low Beta Income	First Trust	1/6/2014	Large Cap	1,069
RDVY	First Trust NASDAQ Rising Dividend Achievers	First Trust	1/6/2014	Large Cap	6,219
SCTO	Global X JPMorgan US Sector Rotator	Global X	10/23/2014	Large Cap	12,531

The data shows that most new ETPs registered for trading are illiquid and could pose risks in a crisis market environment. *Because they are illiquid, the benefits of having so many ETPs are unclear. **The risks are apparent, but not the benefits.***

All Exchange Traded Products Assets Under Management and Price/Execution Liquidity in 2014

On examination date of December 31, 2014, there were 1,663 ETPs registered for trading in the U.S.¹⁰ The data shows **1,178 or 71%** of the total securities had an **average daily volume of less than 100 thousand shares**, which at best can be considered marginally limited trading liquidity. Moreover, 779 ETPs or 47% had trade volumes less than **20,000 shares**, i.e. ***extremely illiquid*** traded products.

Table 2 shows the average daily volumes for most ETPs are quite low and many are actually illiquid in trading volume.

¹⁰ There have been over 400 ETPs that have been shuttered. Sources: Investment Company Institute, ETF.com and Index Universe (now ETF.com) Fund Closure Risk Study, November 2012
<http://www.etf.com/docs/FundDisclosureRiskStudy.pdf>

Table 2 – Average Daily Volume of U.S. ETPs as of December 31, 2014

3 Month Average Daily Share Volume	Number of ETPs	Cumulative Number of ETPs	Cumulative %
0 to 10 thousand	603	603	36%
10 to 20 thousand	176	779	47%
20 to 30 thousand	108	887	53%
30 to 50 thousand	129	1,016	61%
50 to 100 thousand	162	1,178	71%
100 to 200 thousand	132	1,310	79%
200 to 300 thousand	74	1,384	83%
300 to 500 thousand	65	1,449	87%
500 thousand to 1 million	66	1,515	91%

It is a *commonly recognized asset level* of *\$50 million* at which an ETF becomes *sustainable/profitable*.¹¹ There are **720 ETPs** or **43%** of those trading in the U.S., **below this ‘commonly recognized asset level of sustainability’**. This highly suggests that even a limited amount of stress could cause these ETPs to fail. In essence, they are trading on U.S. exchanges like blank check ‘pink sheet’ shell companies, i.e., they exist, but with little assets and tradability.

Table 3 shows the number of ETPs categorized by assets under management (“AUM”) as of December 31, 2014.

Table 3 – Assets Under Management for All U.S. ETPs as of December 31, 2014

Assets Under Management	Number of ETPs	Cumulative Number of ETPs	Cumulative %
Less than 10 million dollars	350	350	21%
10 to 20 million	150	500	30%
20 to 30 million	99	599	36%
30 to 50 million	121	720	43%
50 to 100 million	168	888	53%
100 to 200 million	178	1,066	64%
200 to 300 million	116	1,182	71%
300 to 500 million	105	1,287	77%
500 million to 1 billion	126	1,413	85%
Greater than 1 billion	250	1,663	100%

¹¹ ETF Operator State Street Corporation - SPDR University: An Active ETF Due Diligence Checklist, January 2014 “Significant assets illustrate investor interest and, although products’ break-even points vary, a *commonly recognized asset level at which an ETF becomes sustainable is \$50 million, a level not matched by almost half of today’s ETFs*. Greater assets under management can help enhance a fund’s liquidity.” <http://spdr-etfs.com/data/uploads/2014/01/An-Active-ETF-Due-Diligence-Check-List.pdf>

Most of the 1,663 ETPs average less than 50,000 shares traded per day (61%) and have a small amount of assets under management; a double hit to the integrity and sustainability of the products.

ETF operators have not been shuttering products when they cannot maintain adequate sustainability. If this were to happen on a regular basis, it would show the true undisclosed risks in ETFs.

For example as of December 31, 2014, large ETF operators State Street, had 50 ETFs (34% of State Street's ETFs) that did not reach its own level of recognized sustainability of \$50 million in AUM, BlackRock had 66 ETFs (22%) under \$50 million in AUM, ProShares had 83 ETFs (56%) under \$50 million in AUM and PowerShares had 43 (32%) under \$50 million in AUM.

Long-Established ETPs

To narrow down to a different subsection of ETPs, we looked at those that have been established for an extended period; prior to November 2010 which still existed on July 27, 2015 (1,191 trading days). There were 909 ETPs that met the criteria.

Of the 909 ETPs, there were 331 or 36% of the ETPs with assets under \$100 million, barely crossing into the category of sustainability. Moreover, after all this time 238 or 26% had less than \$50 million of assets under management; under the level of 'sustainability'.

We then looked at trade volume on reporting exchanges for the 909 ETPs and found 567 or 62% traded on average less than 100,000 shares each day during the period. Of these, 465 or 51% traded on average less than 50,000 shares per day. Furthermore, 310 or 34% traded on average less than 20,000 shares each day. For hundreds of these ETPs there were days where **zero** shares traded. For old, established ETPs, the numbers suggest a majority of these financial products would be considered failures by many metrics and market observers.

The majority of the trading liquidity is found in just a few ETPs. By trade volume, 35 ETPs or less than 4% represent 70% of the trade volume for all 909 ETPs. For these 35 ETPs, short selling averaged **62%** on reporting SROs/exchanges during the 4 ½ year period.

Do not be confused that short selling in these securities has created underlying asset benefits to ETP investors by means of creation of new assets to support the short selling; this simply has not occurred and is discussed in further detail below.

New ETPs have *Continued* to be Illiquid

More than half of the new ETPs from 2011 through 2014 (four years), have not gained enough assets to satisfy the \$50 million AUM level. Table 4 shows the number of ETPs issued each year since 2011 and the number with AUM of less than \$50 million as of December 31, 2014.

Table 4 – Annual Registered New ETPs 2011 through December 31, 2014 and AUM as of December 31, 2014

Year	Number of New ETPs	Number of New ETPs with AUM Less Than \$50 Million	Percent of New ETPs with AUM Less Than \$50 Million
2011	185	105	57%
2012	162	86	53%
2013	154	72	47%
2014	199	152	76%
Total	700	415	59%

New ETPs have also shown a pattern of illiquidity in daily trade volume. Moreover, 77% of newly issued ETPs by the end of December 2014 averaged less than 50 thousand shares traded each day. Table 5 shows the number of ETPs issued each year since 2011 and the December 31, 2014 level of average daily volume.

Table 5 – Annual New ETPs from 2011 through 2014 and 3-Month Average Daily Volume as of December 31, 2014

Year	Number of New ETPs	Number of ETPs with Average Daily Volume Greater Than 1 Million Shares	Percent of ETPs with Average Daily Volume Greater Than 1 Million Shares	Number of ETPs with Average Daily Volume Between 1 Million and 50 Thousand Shares	Percent of ETPs with Average Daily Volume Between 1 Million and 50 Thousand Shares	Number of ETPs with Average Daily Volume Between 50 Thousand and 5 Thousand Shares	Percent of ETPs with Average Daily Volume Between 50 Thousand and 5 Thousand Shares	Number of ETPs with Average Daily Volume Less Than 5 Thousand Shares	Percent of ETPs with Average Daily Volume Less Than 5 Thousand Shares
2011	185	8	4%	49	26%	58	31%	70	38%
2012	162	6	4%	48	30%	50	31%	58	36%
2013	154	2	1%	36	23%	69	45%	47	31%
2014	199	0	0%	15	6%	81	41%	103	52%
Total	700	16	2%	148	21%	258	37%	278	40%

As shown in Table 5, more than half of the 199 ETPs issued in 2014 have average daily volumes less than **5,000 shares** (i.e. these are extremely illiquid securities). The trend is disturbing, showing more products with much less quality, acceptance or interest.

As a whole, these insignificant ETP securities with low market liquidity and small amounts of AUM could threaten the heart of the ETF marketplace. In a stressed market, it is unlikely investors could/would differentiate between specific ETFs while a large number were imploding. Investors may likely see these implosions as a sign to exit ETFs in general. Are these products ‘necessary or appropriate’ for trading on a registered national stock exchange?

Subsections of the ETP Marketplace

In the subsections below, we have grouped ETPs by type;

- A. Physical and equity based ETFs holding equity securities included in an underlying index or based on specific commodities such as gold,
- B. Municipal bonds, corporate bonds and REITS based ETFs, which hold generally illiquid bonds or real estate investment trusts,
- C. Inverse and leveraged ETFs, with underlying assets including derivative swaps and futures contracts, and
- D. Exchange traded notes, which are issued as a debt obligation by a creditor.

A. Physical and Equity Based ETPs

Table 6 shows the average daily volumes as of December 31, 2014 for all 560 ETPs based on U.S. equity securities (S&P 500, Russell 2000 companies, etc.).

Table 6 – Average Daily Volume of ETPs Based on U.S. Equities as of December 31, 2014

3 Month Average Daily Share Volume	Number of ETPs	Cumulative Number of ETPs	Cumulative %
0 to 10 thousand	152	152	27%
10 to 20 thousand	65	217	39%
20 to 30 thousand	43	260	46%
30 to 50 thousand	40	300	54%
50 to 100 thousand	59	359	64%
100 to 200 thousand	48	407	73%
200 to 300 thousand	35	442	79%
300 to 500 thousand	25	467	83%
500 thousand to 1 million	26	493	88%
Greater than 1 million	67	560	100%

Table 7 shows the number of ETPs based on U.S. equities by assets under management as of December 31, 2014.

Table 7 – Assets Under Management for ETPs Based on U.S. Equities as of December 31, 2014

Assets Under Management	Number of ETPs	Cumulative Number of ETPs	Cumulative %
Less than 10 million	73	73	13%
10 to 50 million	94	167	30%
50 to 100 million	55	222	40%
100 to 500 million	159	381	68%
500 million to 1 billion	55	436	78%
Greater than 1 billion	124	560	100%

B. Municipal Bond, Corporate Bond and REITS ETPs

The SEC is seeking comment “on the trading ETPs investing in less-liquid assets, including fixed-income instruments, during periods of market stress.”

Many ETPs hold illiquid underlying assets and could provoke substantial risks for the ETP marketplace. These risks could be mitigated with little apparent disruption to the markets by changing the product type investment descriptions, disconnecting them from products registered under the 1940 Investment Company Act (“1940 Act”) and fully disclosing the type of investments these funds actually represent.

ETPs based on corporate bonds, mortgage-backed securities, municipal bonds, Real Estate Investment Trusts (“REITs”) and other potentially illiquid assets may be hard to sell or value in any market, but especially in a stressed market environment (these products include both ETFs and ETNs¹²).

This subgroup of products do not seem to fit with other ETFs registered under the 1940 Act. Municipal bond, corporate bond and REITS ETPs are mostly illiquid ETFs with illiquid underlying assets that are hard to value in times of stress and many will not be able to comply with the SEC’s expectation of “funds to *monitor portfolio liquidity on an ongoing basis* to determine whether, in light of current circumstances, an *adequate level of liquidity is being maintained*”, and the 1940 Acts requirements that a registered fund is to “invest *no more than 15%* of its assets in illiquid securities.”¹³

¹² While ETNs are not registered under the 1940 Act, they are frequently grouped together with ETFs by ETF websites, the financial media and therefore, by ETP investors.

¹³ *Revisions of Guidelines to Form N-1A*, SEC Release No. 33-6927, March 20, 1992

<http://www.sec.gov/rules/other/1992/33-6927.pdf>

The SEC has designated that an open-end fund registered under the 1940 Act is to invest no more than ***15% of its’ assets*** in illiquid securities. An illiquid security is “any security which cannot be disposed of promptly and in the ordinary course of business without taking a reduced price. A security is considered illiquid if a fund cannot receive the amount at which it values the instrument within seven-days.” *Acquisition and Valuation of Certain Portfolio Instruments by Registered Investment Companies*, SEC Release No. IC-14983, March 17, 1986

<http://www.sec.gov/rules/final/1986/ic-14983.pdf>

These types of ETPs are just some examples where the illiquid underlying assets could hinder the alignment of the ETP's price with the price of underlying assets (see SEC Question 3). In a stressed or crisis market, the price of ETPs can significantly differ from the value of underlying assets and harm investors that do not understand the products (see SEC Question 6).

In March 2015, Howard Marks, founder and co-chairman of alternative investment firm Oaktree Capital Management, stated:¹⁴

“It’s one of my standing rules that “**No investment vehicle should promise greater liquidity than is afforded by its underlying assets.**” If one were to do so, **what would be the source of the increase in liquidity?** Because **there is no such source**, the **incremental liquidity is usually illusory, fleeting and unreliable**, and it works (like a Ponzi scheme) until markets freeze up and **the promise of liquidity is tested** in tough times.”

“People often think about liquidity constraints as relating to specific assets; they don’t necessarily think about the **knock-on effects of illiquidity from asset to asset and market to market**. For example, in the crisis, institutional investors had to sell liquid assets at steep discounts and redeem from the most liquid hedge funds because of the heavy allocations to illiquid strategies and gated funds elsewhere in their portfolios. The **resulting elevated supply of assets for sale from these funds reduced the liquidity for sellers in those markets and put downward pressure on assets that shouldn’t have been so affected**. . . . The **ETF can’t be more liquid than the underlying, and we know the underlying can become highly illiquid.**”

There are 193 ETPs based on municipal bonds, corporate bonds or REITS (which are publicly viewed as more illiquid type ETPs)¹⁵, 138 or 72% trade less than 100 thousand shares on average per day. There are 95 of these ETPs that trade less than 25 thousand shares on average each day or 49%. Moreover, **70 have less than \$50 million in assets under management.**

Table 8 shows the 3 month average daily volumes as of December 31, 2014 for all ETPs based on municipal bonds, corporate bonds or REITS.

¹⁴ Barron’s Op-Ed, *Howard Marks’ Master Class on Liquidity*, Howard Marks, March 26, 2015 <http://online.barrons.com/articles/howard-marks-master-class-on-liquidity-1427387369>

¹⁵ Source: ETF.com as of December 31, 2014

Table 8 – Average Daily Volume of ETPs Based on Corporate and Municipal Bonds or REITS as of December 31, 2014

3 Month Average Daily Share Volume	Number of ETPs	Cumulative Number of ETPs	Cumulative %
0 to 10 thousand	70	70	36%
10 to 20 thousand	19	89	46%
20 to 30 thousand	15	104	54%
30 to 50 thousand	16	120	62%
50 to 100 thousand	18	138	72%
100 to 200 thousand	18	156	81%
200 to 300 thousand	9	165	85%
300 to 500 thousand	8	173	90%
500 thousand to 1 million	10	183	95%
Greater than 1 million	10	193	100%

Table 9 shows the number of ETPs based on municipal bonds, corporate bonds or REITS by assets under management as of December 31, 2014.

Table 9 – Assets Under Management for ETPs Based on Corporate and Municipal Bonds or REITS as of December 31, 2014

Assets Under Management	Number of ETPs	Cumulative Number of ETPs	Cumulative %
Less than 10 million dollars	22	22	11%
10 to 50 million	48	70	36%
50 to 100 million	22	92	48%
100 to 500 million	50	142	74%
500 million to 1 billion	17	159	82%
Greater than 1 billion	34	193	100%

C. Inverse and Leveraged ETFs

Underlying assets for ETFs referred to as ‘physical’ ETFs (consisting of cash, commodities and securities ownership) are far different from a portfolio for synthetic inverse/leveraged ETFs, which are largely based on derivative swaps and futures contracts. Inverse and leveraged products are not truly traditional exchange traded funds based on security indexes, but are still classified as ETFs and share similar names with large, important physical ETFs and indexes, such as the S&P 500. When inverse ETFs based on S&P 500 companies, the Dow or Nasdaq 100 collapse, the distinction between breeds of ETFs may not matter, i.e. trouble in one type of ETF could cascade through all ETFs.

Systemic risk is not caused from individual inverse/leveraged ETF failures (these synthetic-backed products are mostly minimal in scale to the ETF market). Rather, the risks

come from the product interactions with similarly named physical ETFs and the reverberation in their underlying assets when the synthetic ETFs collapse. The synthetic ETFs' fundamentally flawed structures create the mechanics for them to collapse in crisis market conditions.

Inverse (a.k.a. short biased) ETFs can be directional investments, but are traditionally used by many investors as a hedge against a market downturn.¹⁶ In theory, a decrease in underlying asset buying support and prices should cause inverse ETFs to increase in price.¹⁷

Hedges against market declines are critical to many trading strategies. With ETFs, many investors think they can purchase long shares with protection from a downside risk supplied by an inverse ETF as a hedging strategy. Managing risk, especially for large investors, has been considered a conservative and important investment strategy.

As shown here, there is **no longer a valid market theory or economic hedging benefit** from inverse ETFs in a stressed/crisis market environment. Inverse ETF hedge strategies simply fail to provide protection in the face of a crisis market decline.

Advertising these products as a way to manage risk is extremely misleading and dangerous to investors because they could suffer losses on both sides of their transactional strategy.

Of the 267 inverse and/or leveraged ETPs as of year-end 2014, **137** or 51% had an average daily volume of **less than 20 thousand shares**. Moreover, a total of **211** or 79% of the ETPs had an average daily volume of **less than 200 thousand shares**. This is a limited to very low amount of price/execution liquidity.

Table 10 shows that the average daily volumes for most inverse and leveraged ETFs are quite low and many ETPs are actually illiquid.

¹⁶ For example, "ProShares Short S&P 500 seeks daily investment results, before fees and expenses, that correspond to the inverse (-1x) of the daily performance of the S&P 500." <http://www.proshares.com/funds/sh.html>

¹⁷ Investopedia describes inverse ETFs as: "An exchange-traded fund (ETF) that is constructed by using various derivatives for the purpose of profiting from a decline in the value of an underlying benchmark. Investing in these ETFs is similar to holding various short positions, or using a combination of advanced investment strategies to profit from falling prices."

Table 10 – Average Daily Volume of Inverse and Leveraged ETPs as of December 31, 2014

3 Month Average Daily Share Volume	Number of ETPs	Cumulative Number of ETPs	Cumulative %
0 to 10 thousand	114	114	43%
10 to 20 thousand	23	137	51%
20 to 30 thousand	15	152	57%
30 to 50 thousand	14	166	62%
50 to 100 thousand	15	181	68%
100 to 200 thousand	17	198	74%
200 to 300 thousand	13	211	79%
300 to 500 thousand	10	221	83%
500 thousand to 1 million	7	228	85%
Greater than 1 million	39	267	100%

In addition to the typically low trade volumes for inverse and leveraged ETPs most of the ETPs have a small amount of total assets under management.

The values for many inverse/leveraged ETPs equate to levels of market capitalization found in *pink sheet* securities.

There are **171 inverse/leveraged ETPs** or **64%** of those trading in the U.S., **below \$50 million in assets**. This suggests that even a small amount of stress could cause these ETPs to fail. Many are trading like blank check shell companies, i.e., they exist, but with little assets and tradability. Table 11 shows the value of assets under management for the 267 inverse/leveraged ETPs.

Table 11 – Total Value of Assets Under Management for Inverse and Leveraged ETPs as of December 31, 2014

Assets Under Management	Number of ETPs	Cumulative Number of ETPs	Cumulative %
Less than 10 million dollars	102	102	38%
10 to 50 million	69	171	64%
50 to 100 million	27	198	74%
100 to 500 million	51	249	93%
500 million to 1 billion	8	257	96%
Greater than 1 billion	10	267	100%

Structural Problems in Inverse/Leveraged ETFs

The SEC and others have warned that investors who believe these ETFs are long-term investments or useful to hedge portfolios are completely misinformed. In reality, these

inverse/leveraged ETFs are ‘investments where the long-term purchaser is likely to lose most if not all of their investment’.

In August 2009, the SEC issued an investor alert regarding leveraged and inverse ETFs advising investors that:¹⁸

“Most leveraged and inverse ETFs “reset” daily, meaning that they are designed to achieve their stated objectives on a daily basis. Their performance over longer periods of time -- over weeks or months or years -- can differ significantly from the performance (or inverse of the performance) of their underlying index or benchmark during the same period of time. This effect can be **magnified in volatile markets.**”

“...**engaging in short sales and using swaps, futures contracts, and other derivatives can expose the ETF—and by extension ETF investors—to a host of risks.**”

SEC investor alerts and warnings from some industry members are being somewhat publicly overwhelmed by the inverse and leveraged ETF promoters via advertising/media coverage and some considered industry experts.

By the very nature of the products and long-understood investment definitions, inverse ETFs should act like a hedge and move in the opposite market direction (up), during a downward market price crisis environment. However, in the past they have imploded in the wrong price direction (i.e. during the May 2010 Flash Crash many inverse ETFs became unhinged from their stated investment objectives and plummeted in price when market maker/high frequency trading liquidity withdrew from the market).

In 2013, J.P. Morgan concluded that inverse ETFs might not act like a hedge as intended, “in periods of stress.”¹⁹ In 2014, BlackRock’s Larry Fink stated that BlackRock, “would **never** do a leveraged ETF. We just think that’s just a **structural problem that could blow up the whole industry one day.**”²⁰

The SEC recently noted that a failure of one type of ETF in a stressed market can cause other ETFs to falter.²¹ In turn, this could reverberate throughout and significantly damage the entire financial markets along with the economy, again.

¹⁸ *Leveraged and Inverse ETFs: Specialized Products with Extra Risks for Buy-and-Hold Investors*, <http://www.sec.gov/investor/pubs/leveragedetfs-alert.htm>

¹⁹ J.P. Morgan, Global Asset Allocations, Flows & Liquidity: Are ETFs Dangerous? July 5, 2013

²⁰ BlackRock at Deutsche Bank 2014 Global Financial Services Investor Conference, May 28, 2014

²¹ In a preliminary denial notice of an application for exemptive relief filed by BlackRock and Spruce ETF Trust for non-transparent actively managed ETFs, the SEC stated on October 21, 2014: “... any breakdown in the pricing or the ability to price the proposed ETF may result in **damage to market confidence in secondary trading of ETFs**—not just in the proposed product, **but in ETFs generally.**.... For this additional reason, the Commission preliminarily believes that it is not necessary or appropriate, nor in the public interest or consistent with the protection of investors...” Spruce ETF Trust, et al.; Notice of Application, Investment Company Act Release No. 31301; 812-13953, October 21, 2014, <http://www.sec.gov/rules/ic/2014/ic-31301.pdf>

Mr. Fink is concerned about the risks to the financial system from leveraged ETFs. The data indicates the risks are real and are being exacerbated through excessive short selling and high order/cancellation ratios for many ETPs (discussed below).

Leveraged/Inverse ETFs During the Flash Crash

The SEC/CFTC reports on the May 2010 Flash Crash did not discuss inverse and short-biased ETFs.²² Some important inverse/short-biased ETFs experienced a **decrease in price** with increased volume while **market prices were declining**. **As market prices declined, inverse ETFs should have risen in price.**

These ETFs became unhinged from their stated investment objectives and plummeted in price when market maker/high frequency trading liquidity withdrew from the market. A decrease in market buying support and prices should have caused a spike in the prices of inverse ETFs during the Flash Crash, i.e. they should have **reacted in the opposite price direction.**²³

To provide a real life example to answer the SEC's Question 16: The Flash Crash showed the arbitrage mechanism intended to ensure efficient pricing failed for many ETPs in a time of market stress.

During the Flash Crash, 227 ETFs had trades busted because their price declined 60% or more from the 2:40 p.m. price point within minutes, with **160** of these ETFs declining to virtually **zero**.²⁴ Of the 227, there were **26 leveraged or inverse ETFs** that experienced price declines of 60% or greater (they imploded).

Table 12 shows examples of inverse/short ETFs based on the important S&P 500 securities. The table shows significant increases over the average volume traded while prices decreased in the opposite direction of these ETFs' stated objectives during the Flash Crash.

²² *Preliminary Findings Regarding the Market Events of May 6, 2010* Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues, May 18, 2010.

Findings Regarding the Market Events of May 6, 2010 Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues, September 30, 2010.

Recommendations Regarding Regulatory Responses to the Market Events of May 6, 2010, Summary Report of the Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues, February 18, 2011.

²³ For example, "ProShares Short S&P500 seeks daily investment results, before fees and expenses, that correspond to the inverse (-1x) of the daily performance of the S&P 500." <http://www.proshares.com/funds/sh.html>

²⁴ *Preliminary Findings Regarding the Market Events of May 6, 2010* Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues, May 18, 2010.

Table 12 – Trade Data in Example ETFs Based on the S&P 500 on May 6, 2010

Symbol	Fund Name	High	Low	Spread between High and Low Price	% Change from High	Volume Traded 5/6/10	Average Volume from January 4 - May 5, 2010	5/6/10 Volume as a % of Average Volume
SPXU	ProShares UltraPro Short S&P500	\$38.01	\$29.18	\$8.83	-23%	2,593,300	928,951	279%
SDS	Ultrashort S&P 500 ProShares	\$36.50	\$30.73	\$5.77	-16%	26,626,700	9,109,133	292%
SH	Short S&P 500 ProShares	\$54.60	\$49.34	\$5.26	-10%	12,660,000	2,253,913	562%

Table 13 shows data for additional example inverse or leveraged ETFs based on derivative swaps/futures contracts that declined by 60% or more during the May 2010 Flash Crash.²⁵

Table 13 – Leveraged/Inverse ETFs That Declined 60% or Greater in Value during the Flash Crash and Subsequently had Trades Cancelled by the SEC

Symbol	ETF Name	May 6, 2010 2:40 PM Price Point	Beginning Value at which Trades were Cancelled - 60% Decline	Inverse
DOG	ProShares Short Dow30	\$51.15	\$20.46	Yes
DZK	Direxion Daily Developed Markets Bull 3x	\$49.59	\$19.84	No
INDL	Direxion Daily India Bull 3X	\$35.81	\$14.32	No
SMDD	ProShares UltraPro Short MidCap 400	\$58.00	\$23.20	Yes
SOXL	Direxion Daily Semiconductor Bull 3X	\$33.58	\$13.43	No
UGE	ProShares Ultra Consumer Goods	\$52.88	\$21.15	No

As the above table shows, some **inverse and non-inverse** ETFs based on swaps and futures went in the same downward price direction during the Flash Crash. There appears to be a ***significant structural problem*** with these ProShares and Direxion derivative ETFs; a) both collapsed under stress, and b) the inverse ETFs pricing went in the ***wrong direction***. It seems it is misleading for ETF operators to omit these historical facts/risks in their regulatory and public disclosures.

As an example, if an investor was long the State Street SPDR Dow Jones Industrial Average ETF (Symbol: DIA) based on the Dow components and hedged with the ProShares Short Dow 30 ETF (Symbol: DOG), during the Flash Crash ***both collapsed***. If the ETFs would have remained in that condition, the investor who believed they were market neutral (fully hedged), would have basically lost their investment in both ETFs.

The ETF operators have this data and know trades were cancelled in these ETFs. At the least, there should be a simple disclosure about these facts, (e.g. with fast moving markets under

²⁵ The consolidated tape was reset following the trade cancellations, concealing the low price of the day beyond the 60% decrease in price threshold at which trades were cancelled.

stress, both leveraged and inverse ETFs have become disconnected in the past from the underlying ETF index values with ***inverse*** ETF pricing declining or collapsing in prices, significantly deviating from the inverse ETF prospectus stated objectives).

These products ***should not*** be classed as exchange traded funds; they are more like an option on synthetic swaps and futures derivative instruments with daily reset bets on price direction. They fail under stress, even intraday stress like the Flash Crash. If properly classified and advertised with full disclosure, there would likely be little if any market for these products and they would become obsolete because of natural market forces.

D. Exchange Traded Notes

Exchange traded notes (“ETNs”) are a subsector of the exchange traded products business that should be further separated from ETFs in order to mitigate systemic market risk.

Like inverse and leveraged ETFs, ETNs are very risky products for most investors and could promote substantial risk for important ETPs and potentially the marketplace. If ETNs have trouble under stress and alarm investors, as another type of ‘exchange traded product’, they may not be differentiated from ETFs, which could threaten the rest of the ETPs, i.e. if some of the ETNs falter, it may cause a withdrawal, ‘run on the bank’ scenario across the ETP marketplace.

ETNs have different regulations than ETFs; ETFs are registered under the 1940 Act and ETNs are not. Because ETNs are not governed by the 1940 Act, they do not have the same underlying liquidity requirements or the valuation rules that ETFs are required to follow. This alone should put ETFs and ETNs in separate and distinct investment categories.

ETNs are a systemic risk to other ETPs. As FINRA has stated:²⁶

“ETNs are **complex products** and can carry a ***raft of risks***” ... which includes the following risks to investors:

- ***Credit Risk***. ETNs are unsecured debt obligations of the issuer.
- ***Liquidity Risk***. Although ETNs are exchange-traded, a trading market may not develop.
- ***Holding-Period Risk***. Some leveraged, inverse and inverse leveraged ETNs, are designed to be short-term trading tools, and the performance of these products over long periods can differ significantly from the stated multiple of the performance (or inverse of the performance) of the underlying index or benchmark during the same period.
- ***Conflicts of Interest***. The issuer of the notes may engage in trading activities that are at odds with investors who hold the notes (shorting strategies, for instance).”

²⁶ FINRA Issues New Investor Alert: Exchange-Traded Notes—Avoid Unpleasant Surprises, July 10, 2012
<http://www.finra.org/Newsroom/NewsReleases/2012/P133910>

As explained in FINRA’s ‘Conflicts of Interest’, the issuers of the notes or the counterparties could be market participants trading the ETNs. In stressed market conditions the issuers and/or counterparties may trade in their best interest and not in the best interests of a fair and equitable marketplace for investors.

There were **167 ETNs or 79% below \$50 million** of assets under management at the end of 2014. Table 14 shows the value of assets under management for all U.S. ETNs.

Table 14 – ETNs Value of Assets Under Management as of December 31, 2014

Assets Under Management	Number of ETPs	Cumulative Number of ETPs	Cumulative %
Less than 10 million dollars	100	100	47%
10 to 50 million	67	167	79%
50 to 100 million	13	180	85%
100 to 500 million	20	200	95%
500 million to 1 billion	6	206	98%
Greater than 1 billion	5	211	100%

The data shows **181 or 86%** of the ETNs had an **average daily volume of less than 100 thousand shares**, which at best can be considered marginally limited trading liquidity. Moreover, **110 ETNs or 52% had average daily trade volumes less than 5,000 shares**, i.e. **extremely illiquid** traded products. Table 15 shows the average daily volumes for ETNs, which indicates many are illiquid.

Table 15 – Average Daily Volume of All U.S. ETNs as of December 31, 2014

3 Month Average Daily Share Volume	Number of ETPs	Cumulative Number of ETPs	Cumulative %
0 to 10 thousand	135	135	64%
10 to 20 thousand	20	155	73%
20 to 30 thousand	7	162	77%
30 to 50 thousand	8	170	81%
50 to 100 thousand	11	181	86%
100 to 200 thousand	13	194	92%
200 to 300 thousand	3	197	93%
300 to 500 thousand	2	199	94%
500 thousand to 1 million	1	200	95%
Greater than 1 million	11	211	100%

The majority (**72%**) of the price and execution liquidity for ETNs is found in **only 3 products** based on the CBOE Volatility Index (“VIX”). Think carefully about this, of the 211 ETNs, 72% of the volume is generated in only 3 securities based on the VIX. These ETNs are all based solely on VIX futures. The VIX is a complex index considered to be a betting instrument for professional traders.

One ETN based on the VIX rapidly became unhinged from the underlying VIX futures contracts during the May 2010 Flash Crash. The iPath S&P 500 VIX Mid-Term Futures ETN (Symbol: VXZ) became disconnected, fluctuated more than 60% in price with trades subsequently cancelled. During a time of stress, ETNs that un hinge from the underlying asset values add another layer of potential confusion for investors in the general ETP marketplace.

Following FINRA's clear warnings against risks in ETNs, one would expect ETNs would/could be pulled from the market or reestablished as a different trading vehicle and new ETN listings would not be permitted in the future. However, since FINRA raised these significant red flags in July 2012, there have been **38 new ETNs** registered for trading.

Of these new 38 ETNs, 27 or **71%** have less than \$50 million in assets under management. Additionally, 24 have an average daily trade volume under **10 thousand shares** and 34 are under 50 thousand shares for the prior 3 months ending December 31, 2014. In other words, almost **90%** of the newly issued ETNs are illiquid products.

All ETPs are Grouped Together

The SEC's Question 46 asks: "*Do broker-dealers use the term "ETF" to describe all types of ETPs (as opposed to only those products registered under the 1940 Act)?*" It may be true that broker-dealers and financial professionals are confusing the terminology, but so are other sources of information investors rely on to make decisions.

The financial media does not seem to understand or emphasize the differences between ETFs and ETNs. Both ETF.com and ETF Channel, database ETFs along with ETNs. When an investor views the data for the Barclays iPath S&P 500 VIX Short-Term Futures ETN (Symbol: VXX) on *ETF Channel*, it does not notify the investor the VXX is an ETN.

Yahoo is arguably the widest used investor information internet website. Going to its' Market Data menu, a user can view market data for ETFs, which includes information for ETNs as if they are the same type of product.²⁷

When the media cites total ETF marketplace values (\$1.9 trillion in October 2014), they have consistently included the value of ETNs, which shows ETNs are wrongly considered to be in the same category as ETFs.

Barron's published an article about trading volume in ETFs during October 2014, in which the Wall Street Journal/Barron's staff reporter compared volume in the VXX **ETN** to the entire U.S. **ETF market**, but did not explain that ETFs and ETNs are very different types of products.²⁸ If the media does not recognize the difference, how can investors distinguish between the types of products and risks associated with each?

²⁷ <http://finance.yahoo.com/etf/>

²⁸ Barron's article, *ETF Trading Last Month Was Heaviest Since 2011*, Chris Dieterich, November 5, 2014 <http://blogs.barrons.com/focusonfunds/2014/11/05/etf-trading-last-month-was-heaviest-since-2011/tab/print/>

Most investors will not understand the difference between ETNs that share similar names with large, important ETFs and indexes in stressed markets, such as the S&P 500. There are currently 33 ETNs based on derivatives of the S&P 500 and large capitalization U.S. companies (such as the ETRACS Monthly Reset 2xLeveraged S&P 500 Total Return ETN (Symbol: SPLX), the iPath CBOE S&P 500 BuyWrite ETN (Symbol: BWV) and the Barclays Long B Leveraged S&P 500 TR ETN (Symbol: BXUB)).

Section 2 – Exchange Traded Products Liquidity and Assets

Liquidity is NOT Just Price and Execution Speed

As commonly recognized, liquidity is a vital component to market stability. However, liquidity cannot ***just*** be defined as “price and execution speed” at the time of trade; as the industry has continued to **narrowly define ‘liquidity’**. This concept ignores post-execution liquidity required for legal settlement of securities transactions; i.e. completion of securities contract terms in accordance with contract law.

To define liquidity, one must look past the industry definition and examine the far more important market liquidity factors not adhered to that have previously caused negative market events.

Real securities market liquidity is much broader in scope and includes, liquidity to; a) settle transactions, b) borrow securities for short sales, c) return borrowed assets to lenders, d) provide good collateral and margin loans consistent with federal regulations, e) have properly segregated shares/capital for fully paid for securities²⁹, f) create/redeem shares of ETFs, and g) exit positions in stressed market environments. These components of liquidity are critical to market health, quality and integrity. History suggests a degradation of these liquidity elements can/will end badly for the financial system as a whole.

As a short description of the issues discussed below:

- Some securities have more shares owned by institutional 13F filers than were **issued (i.e. shares outstanding) plus** short interest (these appear to be fictitious financial instruments that are neither long nor reported short, moreover they are not failing at National Securities Clearing Corporation (“NSCC”)).³⁰ These fictitious positions represent undisclosed settlement liabilities/risks.
- A significant amount of securities contracts entered into have not been completed. Undisclosed delivery liabilities exist that can become a liquidity crisis under stressed market conditions. Internalized and ex-cleared fails, including offshore re-hypothecated securities and hypothecation by clearing firms and custodians, are not reflected in data produced by the NSCC.

²⁹ Securities Exchange Act of 1934 Rule 15c3-3 - Customer Protection--Reserves and Custody of Securities.

³⁰ The National Securities Clearing Corporation (NSCC) is a subsidiary of The Depository Trust & Clearing Corporation (DTCC). The DTCC/NSCC acts as a settlement bank for securities transactions.

- The SPDR S&P Retail ETF (Symbol: XRT) is one example ETF with multiple owners per share on a continuous basis for years without significant corresponding NSCC settlement fails; resulting in undisclosed delivery liabilities, which likely will require settlement liquidity that is not readily available in a crisis market. The XRT is a clear example of settlement risk that exists today.
- Reported short interest has declined; short sales are at unprecedented levels since the financial crisis while the value of shares borrowed/loaned have flat-lined and the number of shares on loan have declined. Short interest in the largest ETF, the S&P 500 ETF (Symbol: SPY) alone equals almost the value of all ETF shares on loan indicating a large amount of ETF short interest is not supported by borrowed shares.³¹ J.P. Morgan stated the ETF industry is operating under an ‘expectation of future delivery’.³² As shown below, this ‘expectation’ appears to have grown systemically risky in size and will affect market liquidity.
- If shares are not borrowed for short sales, U.S. margin requirements and net capital reporting for some clearing firms may be inaccurate and cause internal liquidity problems (along with counterparty risks) and an escalation of the next market crisis that is yet to be understood.
- Positions not backed by assets (synthetic/fictitious positions), referred to by the SEC as ‘naked’ short positions can be very difficult to cover. For many securities, such as the XRT with multiple owners per share, securities segregation requirements cannot be complied with. On a large scale, as the ‘naked’ positions appear to be today, liquidity problems from these positions can clearly be damaging to the entire marketplace.
- As the data shows for many ETFs, shares are not being net created for extended periods of time, regardless of excessive short selling and significant investment monies flowing into ETFs. Short sales are siphoning investor capital/investment liquidity from ETFs and their underlying securities, ultimately interrupting the capital formation processes of the market for both publicly traded companies and investors.

There are basic fundamental liquidity needs in the holistic sense to operate a fully functioning supply and demand U.S. marketplace as it was designed to work. These, along with other liquidity obligations (such as for derivatives and other stock related products), go far beyond the industry concept of liquidity ‘equals’ **price and execution speed** at the time of trade.

Since the 2008/2009 financial crisis the decline in volume of actual liquidity has been experienced across all market sectors and exchanges, while high frequency trading and short selling have become a substantial ingredient of market activity.

³¹ Data from FOCUS Reports published annually in Select SEC and Market Data <http://www.sec.gov/about.shtml> and the Financial Stability Oversight Council 2014 Annual Report and Annual Report Data <http://www.treasury.gov/initiatives/fsoc/studies-reports/Pages/2014-Annual-Report.aspx>

³² J.P. Morgan, Global Asset Allocations, Flows & Liquidity: Are ETFs Dangerous? July 5, 2013

With a serious decline in actual liquidity, high frequency trading approaching 70% of the volume and short selling 2 to 3 times the level found in 2005³³ as well as low levels of shares borrowed; at some point the declining liquidity and excessive leverage from uncovered short positions could become a market-wide tipping point under stressed conditions.

The systemic risks from ETFs keep mounting with an increasing probability that liquidity freezes will occur at some point and spread throughout ETFs in/or creating stressed or crisis market conditions across other financial products.

This is also reflective of an inherent flaw in ETPs, i.e. ETP operators do not create shares/assets/underlying liquidity in response to market trading. Authorized Participants have this responsibility, but are not *required* to create ETP assets. ETP operators do not have authority to force Authorized Participants to create any assets for investment and liquidity purposes. In essence, no one is charged with the responsibility for share/asset creations of ETPs.

Without liquidity requirements considered together, gaping holes are left in the financial system oversight for the next financial crisis.

The ‘No Creation Required’ Loophole

According to State Street’s SPY prospectus, only Authorized Participants can create or redeem shares with the ETF. This is supported by a statement from BlackRock in general on ETFs.

The SPY’s prospectus uses the legal concept that Authorized Participants may create or redeem shares with the ETF and further clarification comes from BlackRock in general on ETFs.

In a comment letter submitted to the SEC regarding Exchange Traded Products, BlackRock stated:³⁴

“A small group of investors, known as Authorized Participants (“APs”), can trade directly with an ETF..... Authorized Participants are not agents of the ETF – they are ***not required to create or redeem ETF shares under any circumstances***, and ***only do so when it is in their interest.***”

For ETFs, no participant is contractually obligated to create shares/assets. Authorized Participants are not obligated to request creations and sponsors are not obligated and do not have the authority to force creations. Trustees do not have any requirement nor ability to ensure the proper functioning of the creation/delivery process and capital formation for the underlying assets that is perceived to be occurring through the ETP marketplace. The industry ‘expectation’ of creation for delivery is void without a requirement of Authorized Participants to actually create ETP shares for delivery.

³³ *Can Short-Sellers Predict Returns? Daily Evidence*, Karl Diether, Department of Finance, The Ohio State University, Kuan-Hui Lee, Rutgers Business School, Rutgers University, and Ingrid Werner, Department of Finance, The Ohio State University, first published June 17, 2005, revised May 3, 2007.

³⁴ BlackRock Letter to the SEC Re: Exchange-Traded Products, Release No. 34-75165; File No. S7-11-15, August 11, 2015 <http://www.sec.gov/comments/s7-11-15/s71115-10.pdf>

This is a ‘no creations required’ loophole causing what appears to be an undisclosed fatal flaw in the design of ETPs, which allows Authorized Participants and others an unbridled opportunity to sell various ETPs without committing capital into the underlying assets.

At the very least, there should be clear disclosure that no one has the obligation or can be forced to create and deliver shares of the ETF.

Without this obligation, a purchaser of the ETF is not assured of actually owning shares of the security. For example the XRT, which at times during the last 5 years had 7 reporting 13F institutional owners for each share outstanding. ETF operators are marketing their products to investors for retirement benefits, education savings and as other products to enhance the long-term investor’s outcome. Therefore, there should exist a fiduciary duty to disclose material facts, such as 7 shares are owned for each share outstanding of an ETF, to protect the rights of beneficial owners and investors through disclosure.

ETF operators have a role as gatekeepers to the capital markets to responsibly discuss their products because they continue to promote the benefits of ETFs not only to investors, but also to listing exchanges and the SEC.

As shown by the data below, for some ETFs there are extremely long periods with virtually no net creation because no one is obligated to create or has the authority to compel creation; a central flaw in the ETF model. It appears instead, some ETFs have become a mechanism designed to siphon investors’ money for the benefit of the short selling, which at times reaches 2 of every 3 shares sold.

This submission includes specific ETF examples and long-term data showing no net creation, high levels of short selling, excessive and over-ownership of shares and illiquid underlying securities. This data suggests the industry SROs are profiting from the trading in their markets while ignoring the collective real-time information available to them that raises red flags regarding ETPs. This outcome is detrimental to investors, the financial markets and potentially the economy in the case of a large-scale collapse of ETPs.

The SPDR S&P Retail ETF (Symbol: XRT)

The XRT is one of several major ETFs (along with their underlying equity securities) that have had ongoing excessive short selling, a high number of shares owned by reporting institutions, inadequate share creation to support legitimate settlements, significantly under borrowed shares for short sale transactions, improper reporting of short interest and NSCC fails for several years. Moreover, locates (affirmative determinations in order to sell short) are and have been provided daily for millions of shares sold short when the data shows no sophisticated clearing firm could have reasonable grounds to believe shares could be located/borrowed/delivered for legal settlement of large amounts of short sales.

Red Flags from Excess Ownership Claims

For at least four years, institutional owners have claimed ownership of more than all of the XRT shares outstanding (**exceeding 600% at times**). At the same time, 70% or nearly 3 of every 4 shares have been sold short daily on reporting markets/SROs³⁵ with no sustained net increase in shares outstanding to support the short selling and excess ownership claims.

Table 16 shows ownership claims have historically existed for XRT shares that are not long, but also not reported in short interest. These excess shares owned by institutions were/are neither reported to regulators as issued/registered long or short shares, but they exist in a state **believed** to be owned by institutions. At the end of each period in the table, the institutional ownership claims not reported as long or short, **exceeded the XRT shares outstanding**.

Table 16 – XRT Shares Held by Institutions above Shares Outstanding, Short Interest and NSCC Fails

	December 31, 2011	March 31, 2012	June 30, 2012
Shares Outstanding	11,700,113	12,950,113	9,450,113
Number of Reporting Institutional Holders	97	95	99
Total Shares Owned by Institutions	77,808,884	75,085,005	64,319,206
Difference between Shares Outstanding and Shares Owned by Institutions	66,108,771	62,134,892	54,869,093
Reported Short Interest	51,645,632	44,635,529	38,032,800
Shares Outstanding plus Short Interest	63,345,745	57,585,642	47,482,913
Shares Owned by Institutions Above Shares Outstanding plus Reported Short Interest	14,463,139	17,499,363	16,836,293
NSCC Reported Fails	728,413	242	292,383

The same imbalance in XRT ownership continued to be found through March 31, 2014 (the most recent report examined), without a sustained increase in shares outstanding, reported short interest nor NSCC fails despite continuous daily short selling averaging 70% of trade volume on the reporting markets.

As of **March 31, 2014**, just reporting institutions owned more than **5 shares for every share of the XRT outstanding**. NSCC delivery fails were just 7,728 shares. These metrics are shown in Table 17.

³⁵ Produced in Short Sale Data reports by: NASDAQ OMX BX (B), National Stock Exchange (C), Alternative Display Facility (D), Direct Edge A (J), Direct Edge X (K), NYSE/FINRA TRF (N), NYSE ARCA (P), NASDAQ/FINRA TRF (Q), NASDAQ OMX PHLX (X), BATS Y (Y) and BATS Z (Z). The data is available daily from all of the current reporting markets beginning November 2010. Excluded data has not been produced in part by the NYSE, NYSE Amex, alternative trading systems/dark pools and possibly other sources.

Table 17 – XRT Data March 31, 2014

	Shares
Shares Owned by Institutions (13F Filers)	42,808,001
Shares Outstanding	8,550,113
NSCC Fails	7,728
Shares Owned by Institutions Above Shares Outstanding	34,257,888
Reported Short Interest	24,461,700
Issued Shares Available to Borrow	8,550,113
Maximum Number of Shares Available to Own and Borrow without Creating New Fails to Receive (Shares Outstanding 8.5 Million Plus Shares Available to Borrow 8.5 Million)	17,100,226
Synthetic Positions Exceeding Shares Outstanding and Shares Physically Available to Borrow (Shares Owned by Institutions 42.8 Million Minus Shares Available to Own and Borrow without Creating New Fails to Receive 17.1 Million)	25,707,775

The XRT data raises significant questions and red flags regarding what is being sold in the marketplace as XRT shares.

Systemically Important Financial Institutions Owning the XRT

Greater than 100% ownership should have red-flagged Authorized Participants and auditors that there may be substantial accounting problems for the XRT shares. Supervision of operational risks may be flawed along with lending/borrowing systems and adherence to Regulation SHO clearing firm responsibilities.

This data also should have red-flagged the XRT’s sponsor, State Street Global Advisors, and its’ auditor. Furthermore, the data should have red-flagged the exchanges/self-regulatory organizations (“SROs”) and their auditors, especially because the SROs monitor NSCC settlement failures versus shares outstanding in order to create the daily Regulation SHO Threshold lists.

Table 18 shows firms that are deemed ‘too-big-to-fail’ have consistently been the largest representative institutional holders of the XRT in 13F filings with the SEC.

Table 18 – XRT Institutional Holders Deemed Too-Big-to-Fail

Owner Name	March 31, 2012 % of Shares Outstanding	June 30, 2012 % of Shares Outstanding	March 31, 2013 % of Shares Outstanding	June 30, 2013 % of Shares Outstanding	September 30, 2013 % of Shares Outstanding
Goldman Sachs Group Inc	119.4%	184.9%	118.7%	135.4%	151.3%
Morgan Stanley	111.7%	99.8%	55.7%	29.6%	42.2%
Citigroup Inc	93.1%	63.5%	53.3%	43.7%	31.8%
J.P. Morgan Chase & Co	67.1%	91.8%	65.2%	56.3%	60.8%
Bank of America Corp	48.3%	52.3%	18.1%	17.5%	20.5%

From March 31, 2012 through September 30, 2013 (376 trading days) there were **1.8 billion XRT shares traded** in the marketplace with **64% sold short** on reporting markets/SROs.

A clearing firm is responsible to provide or accept locates for shares to be legitimately borrowed and delivered for settlement of short sales. Moreover, the locate process as otherwise described, is an ‘affirmative determination that shares can be borrowed and delivered for legal settlement’. When so much more than all of the shares outstanding are reported owned by institutions, how can large locates from any sources be valid?

Serious operational and systemic risks are exposed in the XRT with some clearing firms generating an endless supply of tradable shares that should not/do not exist.

XRT Long-Term Trading Metrics

From November 2010 through March 31, 2014 (858 trading days), **70%** of the XRT volume on reporting markets was a product of a short sale. Using the reporting markets percentage as a proxy for the consolidated tape volume, nearly **4 billion XRT shares were sold short** in the marketplace.

During the period, there were on average only **12.4 million** shares outstanding. Marketplace volume averaged **6.6 million** shares traded per day, turning over the average shares outstanding every **1.9 days**.

Moreover, short shares averaged **4.6 million** shares each day, or a turnover of the average number of shares outstanding by **just short sales every 2.7 days**.

Table 19 – Turnover of Average Shares Outstanding November 2010 through March 31, 2014 (858 Trading Days)

	Shares	Average Turnover of Shares Outstanding (In Days)
Average Shares Outstanding	12,358,854	
Average Daily Marketplace Volume (Consolidated Tape)	6,565,195	1.9
Average Daily Short Shares Based on Reporting Markets/SROs Percent of Short Sales	4,571,196	2.7

This is an extreme rate of turnover for shares outstanding. Considering all shares have been and are claimed to be owned by multiple institutional investors for the entire period, share turnover rates should be low in a normal well-functioning supply and demand market. The XRT turnover ratio has been as high as **7 times the shares outstanding** in a **single day**.

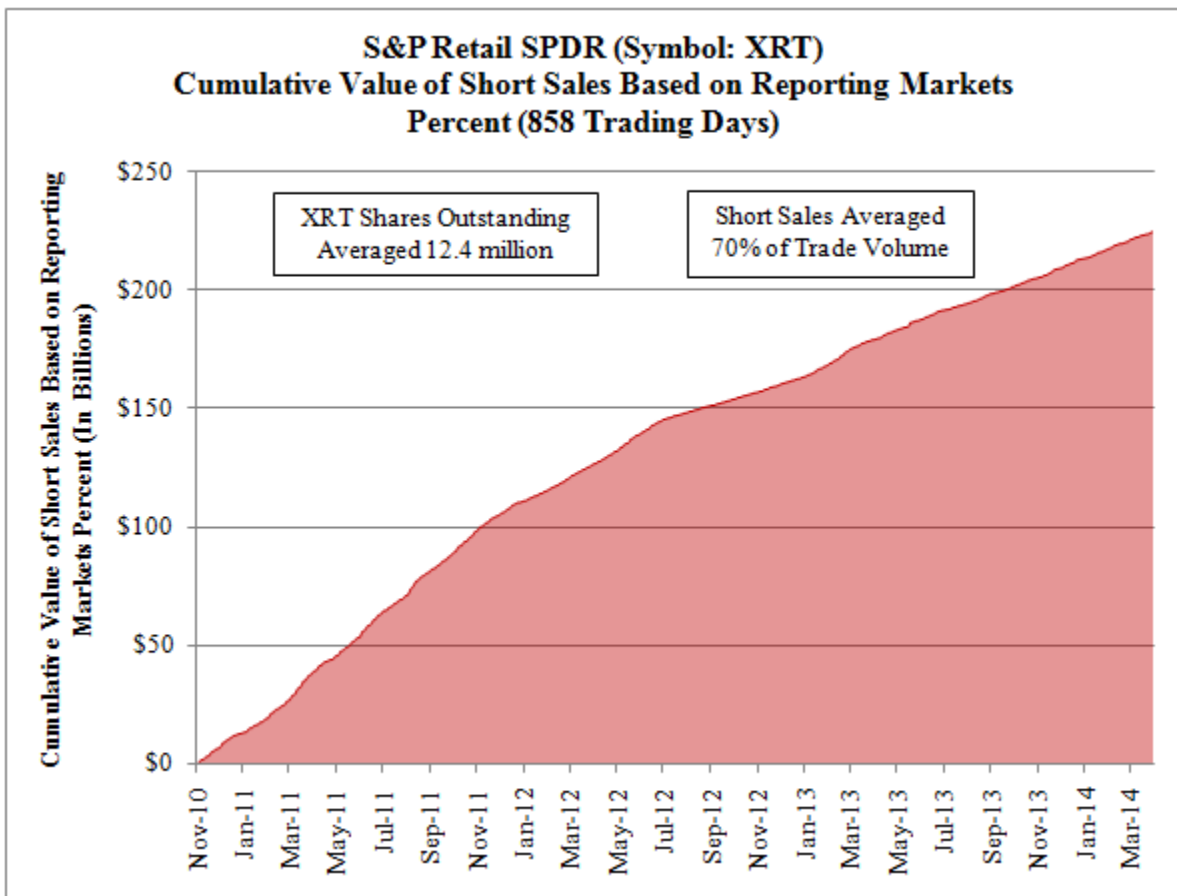
Financial professionals and regulators reading this should recognize how remarkable these share turnover ratios are. They are simply completely illogical in a market based on supply and demand trading.

A Lack of Share Creation for the XRT

There is a consistent pattern of excessive short selling without share creation to accommodate the settlement of XRT securities. For the XRT on November 1, 2010, there were 10.5 million shares outstanding and on March 31, 2014 (858 Trading Days), there were 8.6 million shares outstanding, despite 70% short selling on reporting markets between the two dates and multiple ownership claims for the shares outstanding. Between these dates total marketplace volume for the XRT was **5.6 billion shares**, with approximately **4 billion sold short** based on the reporting markets short sale percentage.

Using the daily closing price during this 858-day period, the trade value equaled **\$326 billion worth of XRT shares sold** with **\$225 billion sold short (not owned by the sellers)**, while there was **no net creation of shares outstanding to support this trading**.

Chart 1 – Cumulative Value of Short Sales for the XRT Based on All Reporting Exchanges/SROs Percent of Volume and Daily Closing Prices from November 2010 through March 31, 2014 (858 Trading Days)



Example XRT Periods Examined

March 2011:

- **All of the outstanding shares of the XRT (which were more than 100% institutionally owned, verifiable through the SEC's EDGAR system) were turned over every day for 20 days in a row.**
- There were 10 **days** where XRT shares issued were turned over from two to **seven times**.
- On 10 days, **short sales exceeded the shares outstanding**. On March 9th, **short sales exceeded shares outstanding by over four times**.
- There were **65 to 73 million shares** reported to FINRA as established short positions, when there were only on average less than 8 million real shares outstanding.
- On average, there were **over 8 owners of shares sold short for each real share issued**.
- NSCC fails started the period at 32 thousand and ended the period at 149 thousand, virtually net flat despite at least 8 owners per share.

Considering the ownership scenario of the XRT has continued in the overbought position for more than four years, no clearing firms should have reasonable grounds to believe that the large number of short sales will or could be properly delivered to complete settlement.

Simply put, no locate provided by the clearing firm; no short sale will/can be legally executed by brokers or investors. Locates provide an assurance by clearing firms that shares will be borrowed and delivered to complete legal short sale settlement. The amount of short sales should be limited by the amount of shares to lend, creating natural supply and demand market forces that constrain short selling, however short selling in the XRT is and has been **unlimited**.

If a clearing firm does not have a legitimate belief that it can/will comply with the intent of federal securities regulations for locating and borrowing securities for delivery prior to the execution of a short sale, violations of securities laws, rules and regulations occur. These legal short sale restrictions and potential penalties do not appear to have constrained the trading or changed the behavior of some clearing firms.

This type of clearing firm is willing to provide itself or its' clients with the ability to sell short with knowledge that the shares will not or cannot be delivered to consummate contractual settlement of the securities. In stressed market conditions, these ETF Authorized Participant/clearing firm activities could affect the ETF operators and potentially the national clearance and settlement system.

Table 20 illustrates these metrics which logically indicate that **'reasonable grounds to believe' that millions of shares each day could be located for legitimate short selling was a virtual impossible threshold to meet.** Short positions are multiple times higher than shares outstanding without corresponding NSCC settlement failures reported to regulators, a serious concern regarding the ability of regulators to enforce Regulation SHO.

In the following two tables, we use two data sets produced from the consolidated tape and the reporting exchange markets/SROs data. This data shows there is a gap in volume between the consolidated tape versus the volume produced daily by the reporting exchange markets/SROs, which is attributable to non-reporting markets, including alternative trading systems/darks pools.

We are reasonably confident the reporting markets percent of short selling is a representation of short selling on the non-reporting markets. Therefore, throughout this document we also use the percentage of short selling on reporting markets as a proxy for short selling on the consolidated tape.

Table 20 – XRT Share Accounting and Trading in March 2011

Trade Date	Shares Outstanding Issued by ETF Distributor State Street Global Advisors	Total Daily Marketplace Volume (Consolidated Tape)	Total Daily Marketplace Volume as a Percent of Shares Outstanding	Total Daily Volume on SRO Reporting Markets (Excluding Unreported Markets)	Daily Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)	Percent of Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)	Settlement Date NSCC Reported Fails for Trade Date	Reported Short Interest ³⁶
3/1/2011	11,900,113	14,141,500	119%	11,024,611	9,110,868	83%	32,016	
3/2/2011	8,550,113	13,839,500	162%	11,309,293	7,892,140	70%	27,822	
3/3/2011	7,500,113	11,728,500	156%	9,657,268	7,297,579	76%	151,569	
3/4/2011	11,150,113	13,172,000	118%	9,159,451	7,429,892	81%	174,432	
3/7/2011	8,200,113	13,542,800	165%	10,391,690	8,047,342	77%	2,672,325	
3/8/2011	6,950,113	15,042,000	216%	11,909,804	9,341,481	78%	3,111,135	
3/9/2011	2,450,113	17,579,100	717%	14,329,163	11,659,164	81%	2,884,700	
3/10/2011	4,400,113	15,952,900	363%	12,877,303	9,957,951	77%	1,380,378	66,315,811
3/11/2011	5,000,113	14,444,800	289%	11,884,179	8,967,316	75%	218,745	
3/14/2011	11,000,113	13,972,700	127%	10,947,296	8,250,621	75%	98,595	
3/15/2011	11,900,113	16,880,300	142%	13,370,953	9,441,743	71%	4,052	
3/16/2011	12,400,113	16,005,300	129%	12,667,367	8,404,860	66%	84,502	
3/17/2011	12,650,113	17,281,200	137%	13,736,132	9,826,851	72%	97,961	
3/18/2011	11,150,113	24,381,500	219%	19,207,743	15,177,634	79%	140,899	
3/21/2011	6,300,113	14,521,000	230%	11,848,926	7,581,121	64%	1,867,320	
3/22/2011	7,850,113	12,303,200	157%	9,788,302	7,003,087	72%	3,469,764	
3/23/2011	5,500,113	14,426,700	262%	11,344,414	7,776,951	69%	4,539,685	
3/24/2011	2,650,113	15,078,800	569%	10,219,045	6,884,915	67%	4,929,698	
3/25/2011	5,000,113	13,772,300	275%	10,310,664	7,070,219	69%	662,020	
3/28/2011	6,900,113	14,297,900	207%	11,340,428	8,659,747	76%	149,243	73,022,120
Average Totals	7,970,113	15,118,200	190%			74%	1,334,843	
		302,364,000		237,324,032	175,781,482			

³⁶ Reported short interest was 65,642,975 shares on trade date February 23, 2011.

On March 9, 2011, there were **2.5 million XRT shares outstanding** and **11.6 million shares sold short** on just the reporting markets. Note on March 9th, the reporting markets show over **8 of 10 shares** traded were short sales, leaving less than two shares sold long and available to cover the day's short sales. At the same time, there were **more shares sold long than existed**. **The fails that were reported to NSCC were greater than all of the shares outstanding**.

In effect, the XRT was asset bankrupt and the trading was pure smoke and mirrors.

Trade volume exceeded shares outstanding by over **7 times**. Short shares traded on just the reporting markets surpassed shares outstanding by **4.7 times**. Of the 11.6 million shares sold short, where did the required locates come from? Moreover, where did the necessary locates come from when **10 million** shares were sold short the next day and **9 million** shares the following day? While years of XRT trading suggests there were/are no reasonable grounds to believe that millions of shares could be delivered for settlement of short sales, 11 trading days later on March 24th, the same trading characteristics occurred.

Table 21 shows the value of trading and underlying assets in the XRT during March. The values traded for the XRT during March 2011 puts the magnitude of trading into perspective, **short sales** were valued at **\$8.5 billion** in these **20 trading days** on assets with an average value of **\$388 million**.

Along with virtually every other month of trading data examined for the XRT, March 2011 shows a continual buildup of large short positions versus the value of underlying assets. This shows that for long periods of time, regardless of the billions of dollars traded, the underlying shares issued for the XRT by State Street were not created in sufficient quantities to support the trading activity, short selling and ownership claims.

Table 21 – XRT Values of Trading and Underlying Assets in March 2011

Trade Date	Value of Total Underlying Assets	Value of Total Daily Marketplace Volume	Value of Total Daily Volume on SRO Reporting Markets (Excluding Unreported Markets)	Value of Daily Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)	Percent of Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)
3/1/2011	\$575,772,190	\$684,218,914	\$533,412,111	\$440,818,032	83%
3/2/2011	\$416,630,487	\$674,372,097	\$551,079,998	\$384,568,735	70%
3/3/2011	\$370,119,450	\$578,784,070	\$476,571,844	\$360,124,694	76%
3/4/2011	\$547,662,297	\$646,971,719	\$449,886,559	\$364,935,469	81%
3/7/2011	\$396,699,089	\$655,163,706	\$502,721,603	\$389,308,445	77%
3/8/2011	\$337,878,898	\$731,264,995	\$578,993,668	\$454,134,959	78%
3/9/2011	\$119,978,164	\$860,820,770	\$701,676,486	\$570,930,851	81%
3/10/2011	\$214,086,382	\$776,184,297	\$626,541,907	\$484,501,577	77%
3/11/2011	\$246,155,391	\$711,117,013	\$585,057,728	\$441,460,662	75%
3/14/2011	\$536,359,471	\$681,301,181	\$533,784,143	\$402,295,750	75%
3/15/2011	\$579,394,318	\$821,870,342	\$651,006,778	\$459,700,867	71%
3/16/2011	\$597,441,451	\$771,140,524	\$610,317,834	\$404,948,870	66%
3/17/2011	\$607,692,290	\$830,162,702	\$659,862,999	\$472,067,054	72%
3/18/2011	\$536,050,516	\$1,172,159,923	\$923,427,457	\$729,676,775	79%
3/21/2011	\$307,403,458	\$708,527,858	\$578,148,485	\$369,908,093	64%
3/22/2011	\$379,970,732	\$595,514,472	\$473,785,316	\$338,971,947	72%
3/23/2011	\$267,742,881	\$702,284,889	\$552,240,674	\$378,578,273	69%
3/24/2011	\$131,123,226	\$746,074,189	\$505,621,516	\$340,654,255	67%
3/25/2011	\$249,667,248	\$687,682,905	\$514,835,385	\$353,032,445	69%
3/28/2011	\$342,040,061	\$708,749,934	\$562,147,420	\$429,265,495	76%
Average Totals	\$387,993,400	\$14,744,366,497	\$11,571,119,911	\$8,569,883,247	74%

The data for March 9th in Table 21 shows there were ***\$571 million worth of shares sold short*** while the XRT had only ***\$120 million in underlying assets***. Where could the required locates come from for these short sales? On the next day, where did the necessary locates come from for ***\$484 million*** worth of short shares and another ***\$441 million*** of short shares the following day?

Locates from clearing firms are the first component in the chain of events that creates a legal short sale.

What reasonable grounds to believe that shares could be borrowed and delivered for settlement would have existed in order to provide or accept locates for these multiple millions of shares to be sold short legally day after day?

This trading/share accounting raises significant red flags of operational and systemic risks across firms involved with the XRT.

To dispel any questions, most of these short sales cannot be attributed to bona fide market making activity under the ownership circumstances that exist for the XRT. Bona fide market making requires a fair and orderly market to be conducted by market makers.³⁷ The XRT has not had a fair and orderly market for years, thus trading from bona fide market making was limited at best, while millions of shares were traded and sold short each day.

Collectively during these 20 trading days, \$11.6 billion worth of the XRT was sold on just the reporting markets when the average daily value of the shares outstanding was only \$388 million. Over ***30 times the average daily value of the XRT was traded during just these 20 trading days***. This extraordinary turnover ratio occurred despite the fact that over 8 shares had been purchased short (reported short interest) for every 1 share outstanding.³⁸

During the **20-day period, 302 million shares traded turning over the 8 million average shares outstanding 38 times, when all of the existing shares were and remained owned by institutions reporting SEC 13F filings**. By any measure there is an extreme amount of leverage continuing to grow in the XRT, which is ***just one ETF product***.

XRT November 2010

November 8 through November 24, 2010 (13 trading days), is another example period for the XRT. In November, the reported **short interest** and **shares held by institutions** each were **greater than the shares outstanding**. At times during the 13-day period, the daily trade volume and shares sold short on reporting markets **exceeded shares outstanding**. On November 8th, the **NSCC fails were reported as zero**.

From November 8th through November 24th:

- The reported short interest was **58 million shares already sold short**.
- The average shares outstanding were **12 million**.
- The trade volume was **136 million**.
- New short sales on reporting markets were **75 million**.
- Long sales on reporting markets were **27 million**.

On two days (November 16th and 17th) the XRT shares outstanding declined to a very low level (3 and 4 million shares respectively). This low level of shares outstanding and underlying asset value caused the XRT to be virtually insolvent in assets.

³⁷ In 1993, the SEC discussed the bona fide market maker exemption for short selling: “The Commission believes that for the qualifier ‘bona fide’ to have any substance, it must mean more than the fact that the transactions in the account are effected in a market making account. At a bare minimum, to qualify for the exception, a market maker’s short selling activity must be reasonably related to its market making activities.” Exchange Act Release No. 32632, July 14, 1993

In 2004, the SEC further clarified: “Bona-fide market making does not include activity that is related to speculative selling strategies or investment purposes of the broker-dealer and is disproportionate to the usual market making patterns or practices of the broker-dealer in that security.” Regulation SHO Final Rule and Interpretation, Release No. 34-50103, August 6, 2004

³⁸Reported short interest at the end of February/beginning of March 2011 versus the average shares outstanding during March 2011.

However, despite the asset value constraints, the marketplace volume increased and **new short shares on just reporting markets exceeded all of the shares outstanding**. On November 16th and 17th, the total **trade volume exceeded the shares outstanding by 531% and 410%**, respectively.

The volume on November 16th was **5.3 times** the shares outstanding and the **6.9 million new reported short shares alone were 2.4 times the shares outstanding**. The new short sale volume on reporting markets was **73% of the total volume traded**. The fails at NSCC were 7 million shares or 2.6 times the shares outstanding.

Total volume on November 17th was **4.1 times** the shares outstanding and the **10 million new reported short shares alone were 2.5 times the shares outstanding**. The new short sale volume on reporting markets was **76% of the total volume traded**.

Almost **\$1.5 billion** in trading took place in just these two days with XRT asset values under **\$185 million**.

The fails at the NSCC increased from zero on November 8th to 7.3 million shares on November 16th with only 2.8 million shares outstanding. The next day November 17th, **fails at the NSCC were reduced** by 7 million shares and the following day shares outstanding increased by over 7 million shares. Table 22 shows the data for the XRT from November 8 – November 24, 2010.

Table 22 – XRT Share Accounting November 8 through November 24, 2010

Trade Date	Shares Outstanding Issued by ETF Distributor State Street Global Advisors	Total Daily Marketplace Volume (Consolidated Tape)	Total Daily Marketplace Volume as a Percent of Shares Outstanding	Total Daily Volume on SRO Reporting Markets (Excluding Unreported Markets)	Daily Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)	Settlement Date NSCC Reported Fails for Trade Date	Reported Short Interest
11/8/2010	14,300,113	6,125,740	43%	4,476,248	3,631,390	0	
11/9/2010	14,750,113	9,011,671	61%	5,909,178	4,094,544	9,980	
11/10/2010	10,600,113	7,934,105	75%	6,346,466	4,248,955	605,237	60,053,524
11/11/2010	9,500,113	9,674,014	102%	8,301,953	6,087,368	1,955,896	
11/12/2010	7,900,113	11,399,390	144%	8,788,182	6,302,037	2,210,388	
11/15/2010	7,950,113	7,153,122	90%	5,360,705	3,771,672	6,663,426	
11/16/2010	2,850,113	15,124,060	531%	9,549,472	6,962,709	7,379,481	
11/17/2010	4,100,113	16,820,150	410%	13,332,208	10,190,663	296,715	
11/18/2010	11,750,113	10,412,640	89%	8,781,012	7,117,470	72,250	
11/19/2010	14,700,113	8,831,517	60%	6,781,574	4,961,993	66,740	
11/22/2010	16,800,113	11,508,760	69%	7,633,998	6,030,285	190,242	
11/23/2010	18,150,113	10,477,930	58%	7,522,872	5,167,729	3,324	
11/24/2010	18,700,113	11,817,110	63%	9,528,166	6,670,139	550	62,794,344
Average	11,696,267						61,423,934
Totals		136,290,209		102,312,034	75,236,954		

Regardless of these extreme market metrics which should result in settlement failures, the NSCC **fails on November 8th were zero**. Thirteen days later, fails at the NSCC were **only 550 shares**.

As the SEC has observed, one would expect continual large trading activity should result in more fails.³⁹ Considering the short interest (5 times the number of shares outstanding), the high level of institutional ownership, new short selling every day and the large number of new shares required to be borrowed for the short selling (which did not occur); **zero NSCC fails** is an unexpected result from this trading.

Zero NSCC fails suggest all new and previous long/short transactions were perfectly settled. This contradicts the fact that there were several owners for the same share outstanding. NSCC fails are inaccurate and understating the amount of fails and settlement risks within the U.S. financial system. This is the most critical aspect of the financial system to understand in order to calculate its risks; **the NSCC is not capturing the true amount of settlement fails** from trading in the U.S. markets.

³⁹ “Assuming everything else constant, as the magnitude of trading (settlements) increases one would expect that the magnitude of fails to deliver would also increase.” SEC Office of Markets Division of Risk, Strategy and Financial Innovation Memorandum: *Impact of Recent SHO Rule Changes on Fails to Deliver*, April 25, 2011 <http://www.sec.gov/spotlight/shortsales/failsmemo042511.pdf>

Section 3 – Marketing of ETFs to Retail and Other Investors

ETF operators directly advertise ETFs massively to the investing public as suitable, safe investments. For example, in general BlackRock describes investments in ETFs as;⁴⁰

“ETFs are investment products that can help individuals **build a nest egg**, prepare for **retirement**, or save for their **children’s education**. They also help institutions such as large pension plans, foundations and endowments **meet their financial obligations**.”

A BlackRock study found that over the last decade ETFs have been “**embraced by retail and institutional investors alike**.”⁴¹ Also that “**greater ETF adoption by financial advisors** is expected to continue to **drive ETF growth in the retail market**.”

BlackRock stated that self-directed investors value of investments are estimated at more than \$4 trillion. This is a target market for ETF advertising: “**marketing directly to the self-directed investor** will likely also continue to fuel growth in this area.”

Additional ETF Growth Indications Noted by BlackRock

“Existing and new institutional clients, particularly asset allocators, are **increasing their ETF use**....” BlackRock (iShares) sees the “**integration of exchange-traded funds into the core** of investment portfolios...”⁴²

“To date, ETFs have largely been used to take a market position, but **more and more buy-and-hold investors** are using both equity and fixed-income ETFs for **core exposures**.” BlackRock believes, “while this trend is at the beginning of the adoption curve, from 2011 to 2012, assets in core exposures grew nearly 30 percent.”

“There is a **significant opportunity** to expand the existing ETF market through **new ETF products** and new client segments.” “New client segments such as **banks and offshore investors are now starting to discover ETFs** and will drive the next phase of growth.”

ETF operators clearly intend to expand the ETF market.

Disclosure and transparency of investments is a vital part of the federal securities laws and the proper functioning of the U.S. markets. The massive advertising campaigns for ETPs do not clearly disclose the ETP facts and potential risks to investors. The lack of disclosure creates operational and systemic risk for large and small investors, which is why investment transparency and full disclosure is so very important. When new financial products rapidly grow

⁴⁰ Canadian ETF Watch, *ETFs: A Need for Greater Transparency and Regulation*, Mary Anne Wiley, Managing Director, Head of iShares Distribution at BlackRock Asset Management Canada, September 2011

<http://www.canadianetfwatch.com/reports/CanadianETFWatch-Volume2Issue5.pdf>

⁴¹ Index Universe article, *iShares: US ETF Assets At \$3.5T In 5 Years*, Olly Ludwig, June 14, 2013

<http://www.indexuniverse.com/hot-topics/18965-ishares-us-etf-assets-at-35t-in-5-years.html?fullart=1&start=2>

⁴² Index Universe article, *iShares: US ETF Assets At \$3.5T In 5 Years*, Olly Ludwig, June 14, 2013

<http://www.indexuniverse.com/hot-topics/18965-ishares-us-etf-assets-at-35t-in-5-years.html?fullart=1&start=2>

in number and value invested, careful consideration should be given as to the nature of the products' risks, the extent of marketing, to whom they are being marketed and ultimately who the products benefit (i.e. purchasers or sellers).

Growing Risks within the ETF Industry

The data indicates some systemically important ETFs are not growing in shares of underlying assets regardless of new investment in the ETFs. Investment monies are being siphoned off through the guise of short selling without shares being legitimately located, borrowed and delivered to legally complete short sale transactions.⁴³ The ETF shares are being leveraged up, creating dilution from multiple numbers of owners for the same shares. This is a result created by fictional 'legitimate' short sales executed without share creation, borrows and legal settlement.

The majority of systemic market risk comes from large U.S. ETF products run by operators like BlackRock and State Street. We believe ETF operators are sophisticated and they are aware of and know;

- a) many/most large ETF's assets under management are not increasing by growing the underlying assets through share creation, but rather ETP assets under management have increased predominantly from **market price increases**, despite new public investment,
- b) short selling of ETFs is enormous and is the reason investments in ETFs by public investors do not result in increased actual physical assets underlying the ETFs. Short selling causes no real ETF asset creation because the new purchasers' cash is being siphoned off through the guise of short selling for the benefit of the sellers,
- c) legitimate locates for short selling are not only unable to be supplied for many ETFs; they appear to be falsely provided by ETP Authorized Participants/clearing firms in violation of Regulation SHO,
- d) insufficient amounts of shares are borrowed to support the short selling,

⁴³ The amount of short selling today across major ETFs and underlying securities is a new market phenomenon since the financial crisis, or a trading strategy. The short selling of important ETFs is unprecedented and has been ongoing at these levels since at least 2010 (the available data). Standard short selling strategies discussed in academic papers have generally described short selling as a transaction used to profit from a decline in prices. This does not appear to be the goal of the short selling evident in the markets today. Rather, it appears to be a **new short selling strategy** to profit by siphoning incoming investors' monies through the guise of short selling even as the markets increase in value. Typically, short positions would be covered when markets continue to rise and the short seller needs to increase collateral for the positions. However, the data shows the positions are not being covered on a wide scale and day after day the short selling continues unabated, with no apparent concern for mark-to-market pricing requiring additional collateral to maintain and build ever increasing short positions. There also does not appear to be concerns by some clearing firms relating to U.S. regulations regarding short selling constraints or leverage limits imposed by the Federal Reserve. There should be alarming red flags over the potential size of this siphoning effect. The short selling is being executed at extremely high levels across important U.S. market sectors, stocks and other products such as ETFs. This siphoning is removing actual investment money away from U.S. underlying assets for the benefit of short sellers.

- e) the level of short sales are very high with ETF operators/Authorized Participants not creating shares to borrow,
- f) an unprecedented ratio of order cancels to executions for the liquid ETFs is extremely high and most likely manipulative. The volume and values of order cancellations versus executed trades is out of balance with natural economic forces in a true supply and demand market. The extreme levels of order cancellation to execution ratios increase the appearance of liquidity. This appearance of liquidity is manipulative, whether with intent or not, the end result produces a false appearance in the marketplace,
- g) market makers will withdraw their support in a highly stressed or crisis market and ETFs will be susceptible to collapsing as they did during the Flash Crash,
- h) high frequency traders concentrating their trading in ETFs could/will rapidly ‘follow the crowd’ into a market crash and/or cause the crash, and,
- i) ETF operators have not fully disclosed the systemic risk and linkages between ETFs and other derivative products in public disclosures or regulatory filings. Regardless of the above, ETF operators continue with unrelenting advertising campaigns to bring in new ETP investors.

Skewing the Data by Grouping ETPs

In a recent whitepaper, BlackRock described the assets under management, trading volume, creation/redemptions and other metrics for classes of bond based ETFs, including municipal bonds.⁴⁴ Unfortunately, BlackRock grouped both large liquid ETFs and smaller illiquid ETFs together, which skews the data and creates the appearance of decent liquidity for ETFs as a group, which in reality does not exist. This type of analysis is used by most financial media and industry personnel when discussing ETPs. However, as shown in this submission, many/most ETPs are illiquid.

Some of these ETPs resemble mortgage-backed securities, i.e. the bundling of potentially low grade investments with very questionable market valuations in times of stress into an ETP. Under stress testing, it is likely that many of these ETPs will show their reported assets under management are significantly overvalued.

Grouping the few liquid products with the illiquid products to show a better picture of ETPs as investments is a page directly out of the playbook used by some Wall Street firms to market and sell mortgage-backed securities bundles.

⁴⁴ BlackRock Viewpoint, *Bond ETFs: Benefits, Challenges, Opportunities*, July 2015
<http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-bond-etfs-benefits-challenges-opportunities-july-2015.pdf>

Critics of ETPs

Whenever someone is publicly critical of the ETP industry, the industry makes public comments to, in essence, ‘destroy the messenger’ rather than actually address the possible concerns about ETPs. For example, on March 15, 2015, John Bogle, founder of Vanguard stated:⁴⁵

“Investors, who have come to expect their index funds to be commission-free, beware. Mark me as a member of a small group of cohorts who are dubious about the utility of ETFs for long-term investors.”

“I freely concede that the ***ETF is the greatest marketing innovation of the 21st century.*** But is the ETF a great innovation that serves investors? I strongly doubt it. For better or for worse, ETFs have opened indexing to a new market of stock traders. The only sure winners are the brokers and dealers of Wall Street.”

“In my experience — almost 64 years in the fund industry — I have learnt to beware of investment ‘products’, especially when they are ‘new’ and even more when they are ‘hot’. Avoiding hot new products is unlikely to impair the returns investors earn. Far more likely the reverse is true.”

On March 22, 2015, an unnamed senior executive at a large European ETF provider was quoted in the Financial Times as stating:⁴⁶

“Mr Bogle’s comments are utter nonsense. He hates ETFs because he sees them as a threat to the traditional index funds he created.”

The problem that has continued since the 2008/2009 financial crisis, is the ETP industry claims ETPs are ‘transparent’, when in fact they are not. The ETP industry itself responds to criticism with little or no actual data to support their claims of safety, but rather rely on simple statements to ‘demean’ the messenger.

On July 15, 2015, prominent investor Carl Icahn was critical of the ETP industry for marketing ETPs based on illiquid high yield corporate bonds.⁴⁷ He stated these types of ETPs give an illusion of liquidity for the “extremely illiquid, and extremely overpriced” underlying assets and “there is no liquidity. That’s my point. And that’s what’s going to blow this up”.⁴⁸

⁴⁵ Financial Times article, *Bogle launches renewed attack on ETFs*, Chris Newlands, March 15, 2014 <http://www.ft.com/intl/cms/s/0/f7634ce0-c8b4-11e4-b43b-00144feab7de.html#axzz3UmH9yqy6>

⁴⁶ Financial Times article, *John Bogle’s stance on ETFs branded ‘utter nonsense’*, Chris Newlands, March 22, 2014 <http://www.ft.com/intl/cms/s/0/0cfca922-ce5d-11e4-900c-00144feab7de.html#axzz3VDRDanmm>

⁴⁷ Bloomberg article, *Icahn Calls BlackRock ‘Dangerous’ for Selling High-Yield ETFs*, Beth Jinks and Simone Foxman, July 15, 2015 <http://www.bloomberg.com/news/articles/2015-07-15/icahn-says-to-fink-blackrock-sale-of-etfs-extremely-dangerous->

⁴⁸ ETF.com article, *Fink & Icahn Spar Over Bond ETF Liquidity*, Sam Forgione, July 16, 2015 <http://www.etf.com/sections/features-and-news/fink-icahn-spar-over-bond-etf-liquidity>

Mr. Icahn offered a scenario that wealth management personnel are offering these types of ETPs to retail investors as a way to find liquidity, without knowing or disclosing the risks, likening the sales to what occurred in 2007 with mortgage-backed securities. He stated that because of these types of ETPs, “BlackRock is an extremely dangerous company.”

Larry Fink, who was sitting next to Mr. Icahn at the time of his comments, defended BlackRock and the ETP industry saying those comments were “dead wrong” and “ETFs create more price transparency than anything that’s in the bond market today. To trade ETFs at every minute of every day you have to have a valuation of every bond at every minute.”

This comment does not address high yield corporate bonds under stressed market conditions when liquidity will be required (Mr. Icahn’s point). Mr. Fink is simply going back to the industry’s theory of ‘price/execution equals liquidity’. In reality, ETF underlying high yield bonds in a stressed bond market environment will become illiquid.

Supporters of the ETP industry called Carl Icahn ‘ill-informed’ and a ‘heel’, stating he was ‘drawing odd conclusions’.⁴⁹ Ben Johnson, director of global ETF research at Morningstar stated:⁵⁰

“I think (Icahn's) comments were indicative of the fact that he fundamentally doesn't fully comprehend how ETFs work at the very basic level,” ... ETFs are “this space ship that has landed in Carl Icahn's backyard and he doesn't know what to do with it so he is throwing rocks at it in hopes that it will go away.”

However, some in the industry agreed with parts of what Carl Icahn discussed. A Barron’s author interviewed Gershon Distenfeld, a Senior Vice President and director of high-yield at AllianceBernstein, a global asset management firm with \$485 billion in assets under management, summarizing:⁵¹

“‘Investors associate ETFs with being cheap, passive and liquid,’ says Distenfeld. ‘The reality is that all three are not the case.’”

“Finally, he says that while ETFs add liquidity to the market, it’s unclear whether that liquidity will be there in a time of crises. ‘They haven’t been really tested,’ Distenfeld says. ETFs could be unable to keep up with selling pressure in a downturn and end up trading at a steep discount to their net asset value the way closed-end funds often do. That would be a *shock to investors* and a *disaster for the industry*.”

⁴⁹ ETF.com article, *Why Icahn Is Dead Wrong On ETFs*, Dave Nadig, July 16, 2015
http://www.etf.com/sections/blog/why-icahn-dead-wrong-on-etfs?utm_source=newsletter&utm_medium=email&utm_campaign=dailynewsletter

⁵⁰ USA Today article, *Icahn is off the mark on ETF criticisms*, Kaja Whitehouse, July 19, 2015
<http://www.usatoday.com/story/money/2015/07/19/carl-icahn-larry-fink-faceoff/30244499/>

⁵¹ Barron’s blog, *Icahn and Fink May Both Be Wrong About High-Yield ETFs*, Amey Stone, July 20, 2015
http://blogs.barrons.com/incomeinvesting/2015/07/20/icahn-and-fink-may-both-be-wrong-about-high-yield-etfs/?mod=BOL_hp_blog_ii

Regulators and Investors Need More Information - Most ETP Data is Not Transparent

The SEC Questions 38, 41 and 42 are concerned with timely, adequate and clear disclosure to investors regarding ETP trading, the determination of daily valuation, risks versus benefits and their suitability for different types of investors.

It takes a massive amount of work to compile the necessary data to follow ETPs in the manner provided by this document. Most ETP operators post a single day's shares outstanding, per share net asset value and underlying holdings, providing no historical reference in order to evaluate longer periods of trading and share accounting. There are several key metrics for ETPs that should be reported on a regular basis both daily and given historically for better perspective.

The industry has been arguing for extremely non-transparent ETFs that do not publish the daily underlying holdings, let alone historical data. These types of ETPs will be less comprehensible for investors and simply should not be allowed.

As some are concerned with, the data suggests there is not only risk to the investors in these products, but in times of stress also systemic risk to operators, Authorized Participants and possibly the entire U.S. financial system.

In March 2015, Howard Marks, founder and co-chairman of alternative investment firm Oaktree Capital Management, warned:⁵²

“Financial innovations created in good times often fool people into thinking a silver bullet has been invented that offers a better deal than traditional investments. (By “traditional” I mean investments that are **acknowledged to entail increased risk as the price for targeting increased return . . .** not the “miracles” where increased return comes gratis.) ***Many recent innovations have promised high liquidity from low-liquidity assets.*** As I said on page three, however, **no investment vehicle should promise more liquidity than is afforded by its underlying assets.** Do these recent promises represent real improvements, or merely the **seeds for subsequent disappointment?**”

Auction rate securities were a way to buy long-term debt securities without interest-rate risk and illiquidity. Likewise, ETFs offer a liquid way to invest in potentially illiquid markets. **But these instruments rely for their desirable outcomes on the assumption that other parties will do what they “should” do.** Over the course of my career I’ve seen many instances when market participants failed to do what they were supposed to do. The related financial innovations often remind me of my father’s story about the habitual gambler who finally found a sure thing: a race with only one horse. He bet all his money, but halfway around the track the horse jumped over the fence and ran away. Will ETFs prove liquid in the next crisis? And what impact will mass sales of ETFs have on the prices of underlying assets? We’ll find out.”

⁵² Barron’s Op-Ed, *Howard Marks’ Master Class on Liquidity*, Howard Marks, March 26, 2015
<http://online.barrons.com/articles/howard-marks-master-class-on-liquidity-1427387369>

Regardless of the non-transparency of ETP data, the industry continues to aggressively advertise how transparent ETPs are. By spending millions in advertising, it is almost as if the industry is using the theory that if you continue to say something that is in fact not true, it will become perceived as true. This can be easily affirmed by the reader through an exercise of trying to find historical information regarding ETP assets from any major ETP operators other than State Street or ProShares.⁵³

Section 4 – ETP Examples – Problematic Assets and Over-Ownership

Specific ETPs with Both Product and Underlying Liquidity Concerns, a Lack of Creation of Assets, Not Borrowing for Short Sales or Reporting NSCC Fails, Excess Ownership of Shares Outstanding and/or are Not Receiving Regulation SHO Protections

In many important ETFs the investment managers/Authorized Participants of ETFs are simply **not creating shares** to align with the actual number of financial instruments trading in the market. Again, this reflects a basic flaw in ETPs that is not truly understood in the marketplace. ETF operators do not have authority to force creations of ETF shares/assets and Authorized Participants are under no obligation to create shares/assets.

The outcome of this activity results in; a) underlying holdings **not** benefiting from ETF capital formation, which is expected to be occurring, and b) improper short selling is intercepting the money flow between investors and ETF share creation and the resulting net purchases of underlying assets by ETFs. **This fact is a direct contradiction to the way the SEC has publicly testified how ETFs work.**

In testimony before the Senate Subcommittee on Securities, Insurance and Investment in October 2011, Eileen Rominger, the director of the SEC's Division of Investment Management explained the SEC's understanding of physical ETFs;⁵⁴

“ETFs offer investors an undivided interest in a pool of securities and other assets.”

“Apart from the fact that ETFs trade intraday, most **ETFs are similar to mutual funds** in that they **both translate investor purchases and sales in the fund** (and **changes in investor sentiment**) **into purchases and sales of underlying holdings.**”

If this was the way ETFs were operating, ETFs would not be a cause of systemic risk concerns, but many are not functioning as described.

Simply put, the data shows net creations, which should positively increase the underlying holdings, **are not occurring**. Redemption periods negatively affecting assets **are occurring** and to a greater degree than expected (a likely result from undisclosed synthetic positions caused by abusive short sales and internalized clearing firm/Authorized Participants failed to deliver/receive positions).

⁵³ Other large ETP operators: BlackRock iShares, Direxion, First Trust, GlobalX, Invesco Powershares, UBS, Barclays, Van Eck, Vanguard or Wisdom Tree

⁵⁴ Eileen Rominger, Director, Division of Investment Management, *Testimony on Market Micro-Structure: An Examination of ETFs*, October 19, 2011 <http://www.sec.gov/news/testimony/2011/ts101911er.htm>

We have used the following as previous exhibits, therefore they spanned a variety of different time periods since 2010. These are examples of products that should be high priority concerns for existing risks before the next financial crisis occurs.

Like many mortgage-backed securities products that were not stress tested prior to the financial crisis, ETFs now carry the same type risks of potentially helping to cripple the U.S. and global 'too big to fail' companies. Again, we agree with Mr. Fink; it is the products that can create undisclosed/currently unknown future financial distress and ETPs should be seriously stress tested. The following suggests that important ETFs will not pass.

A. The State Street SPDR Gold Shares ETF (Symbol: GLD)

The State Street SPDR Gold Shares ETF (Symbol: GLD), holds only 1 commodity asset, physical gold. The GLD is a straightforward and simplistic ETF example that demonstrates the supply and demand for shares and values of assets are not showing the expected natural economic relationships between the trading of the ETF and its gold assets.

The GLD is an ETF that has experienced both periods when shares should have been created but were not and times when massive amounts of shares were redeemed (decreasing GLD assets at more than twice the rate of changes in the price of gold).

Each type of creation/redemption period shows unexpected risk for investors in the GLD. By any measure, the GLD exemplifies asset risk to investors outside of the fundamental movement in the price of gold.

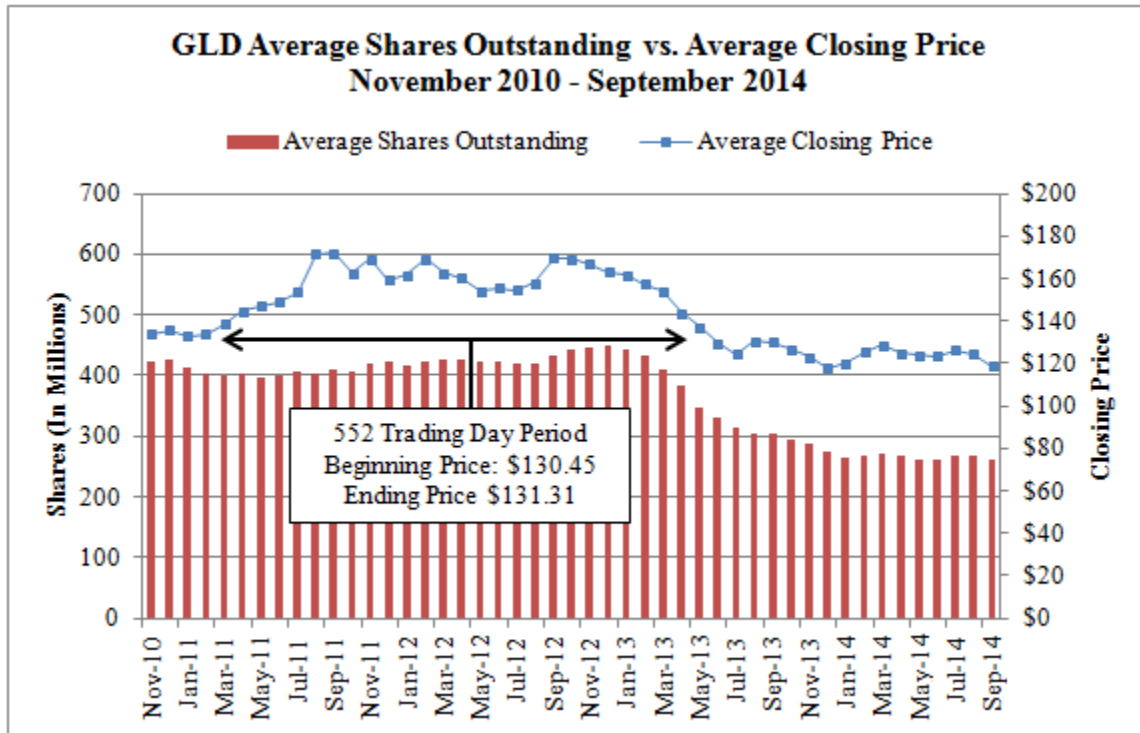
Because the only underlying asset is gold, new investment in the GLD should result in the ETF purchasing more gold when gold is in favor as an investment. In fact, the GLD for 2 years reviewed **did not purchase any significant amounts of gold** to match the enormous trading of the GLD by investors.

The ETF operators know underlying assets are not adjusting to incoming net investments, but have not disclosed the fact that creations are not happening as the SEC expects for many systemically important ETFs.

Chart 2 illustrates the creation/redemption process along with the GLD price action (**changes in investor sentiment for physical gold**). The GLD price is reset each day to approximately 10% of the price of an ounce of gold.⁵⁵ In Chart 2, the daily shares outstanding and closing prices for each month were averaged in order to keep the chart understandable for the long trading period.

⁵⁵ This price fluctuates at a .5% premium or .5% discount.

Chart 2 – GLD Average Monthly Shares Outstanding vs. Average Monthly Closing Price from November 2010 through September 2014 (985 Trading Days – Almost 4 Years)



Change in GLD Assets Over This 552 Trading Day Period

On April 15, 2013, the closing price of the GLD was \$131.31. The last time the GLD was valued at this level was 552 trading days prior, on February 2, 2011 when the closing price was \$130.45.

For most of the 552 days, the GLD was a relatively ‘hot’ ETF and the data suggests significant incoming investment into the GLD occurred.

During the 552 trading days from February 2, 2011 through April 15, 2013, the reporting markets data showed more than 1 of every 2 GLD shares sold were the product of a short sale; **7.38 billion GLD shares** were traded worth ***\$1.17 trillion***, but by April 15, 2013, the underlying physical gold value held by the ETF had **declined by \$784 million from the beginning of the period.**

For the majority of this time, gold was ‘in-favor’ as an investment moving from **\$1,300 to \$1,800** (in the first 150 days with flat or decreasing GLD shares outstanding). For the next 362 days the average price of gold remained above \$1,600. It then took **40 trading days** for gold to decline to \$1,300 (February 18 through April 15, 2013), with the majority of the price decrease occurring within the final 3 days. Investment in physical gold and the GLD during this period had little economic influence on the GLD’s net purchasing of physical gold.

Table 23 shows the asset values and the total volume traded in the GLD during the 552-day period.

Table 23 – Asset Values and Volume Traded in the GLD from February 2, 2011 through April 15, 2013 (Two Years - 552 Trading Days)

	Value
Asset Value February 2, 2011	\$52,730,385,538
Asset Value April 15, 2013	\$51,946,541,141
Highest Asset Value During Period (August 22, 2011)	\$77,511,602,759
Lowest Asset Value During Period (April 15, 2013)	\$51,946,541,141
Average Asset Value During Period	\$66,500,114,530
Value of Shares Traded During Period	\$1,170,756,995,770

By investing in the GLD, the investor pooled monies into an ETF that did not gain any new net holdings of physical gold (underlying assets of the GLD actually declined by \$784 million) and investors only received the change in gold value (a GLD increase of \$0.86 per share).

It appears that the pooled investor interests in the GLD were diluted with short sales that created large synthetic unreported short positions (producing excess leverage and undisclosed liabilities). The **short sales** were **greater than half a trillion dollars** when the average asset value was only **\$66.5 billion**.

Simply put, despite investments, on February 2, 2011 and two years later on April 15, 2013, the ‘pot of gold’ owned by the GLD was the **same pot of gold**.

At the end of this 26-month period, an investor in the GLD did not have any more representative ownership of gold assets under management by its ETF operator than it started with and the investor asset value was diluted from high levels of short selling.

These findings of static assets (inadequate net creations during positive investment periods) and sustained short selling have continued in multiple large ETFs we have reviewed.

GLD No Net Creation – Strong Positive Investor Sentiment in 2011

It takes net creation of new shares for the GLD to purchase its’ underlying assets of physical gold.

As shown in Chart 2, from February 1st through September 6, 2011 (151 trading days) the price of the GLD **increased** from \$129.92 to \$184.49 or by **42%**, while there was essentially no net creation of ETF shares to purchase the underlying physical gold. There were 404 million shares outstanding on February 1st and on September 6th, there were 406.8 million shares outstanding; an increase of less than 1% (virtually no net change in the amount of gold in the pot).

During the 151-day period, 2.7 billion GLD shares traded worth **\$412 billion**. Reporting markets/SROs data showed on average 52% of the shares were sold short, equating to approximately 1.4 billion shares sold short at a value of \$215 billion. The only change in **underlying asset value** is attributable to the GLD price change (+\$54.57 reflecting the price increase of gold), not because of **new purchases** of gold by the ETF operators/Authorized Participants. This data is shown in Table 24.

Table 24 – GLD Data February 1, 2011 through September 6, 2011 (151 Trading Days)

	2/1/2011	9/6/2011
Per Share NAV	\$129.92	\$184.49
Shares Outstanding	404,200,000	406,800,000
Total Assets Under Management	\$52,513,965,320	\$75,048,750,790

February 1 - September 6, 2011	<u>Volume</u> Between Dates	<u>Value</u> Traded Between Dates
Shares Executed (Consolidated Tape)	2,683,600,600	\$412,372,915,050
Short Sales (Based on U.S. Reporting Exchanges Percent)	1,399,586,669	\$214,968,361,274

Essentially, the increase in the total assets under management mirrors only the price increase of gold. Purchasers' investment into the GLD did not generate net purchases of new gold assets. The data suggests products operating like this provide an efficient way to siphon investors' monies through short sales while bypassing the purchasing or borrowing of assets. This is akin to selling fictitious financial instruments (thin air), which is illegal in the U.S.

Large GLD Redemptions Caused Multiplying Losses of Physical Gold Assets – 2013

From March 1st through December 31, 2013 (212 trading days), the **price of the GLD declined by \$37.25 or 24%**, aligning with the \$378 drop in the price of gold. At the same time, there was a large amount of GLD redemptions that **decreased the shares outstanding** from 416 million to 266 million.

Due to the combined price decrease in the underlying asset (gold) and the net redemptions in the GLD, the value of assets under management ***dropped by \$33 billion or 52%*** during the period. Simply put, the price of gold and the GLD declined by 24% and the value of the GLD assets fell by 52%.

This is very important. The 212-day period of net ***redemptions*** shows ETF underlying assets became unhinged from the underlying gold. Assets decreased by more than double the rate of gold's decline in price. Investors wishing to participate in the gold market would not buy the GLD if they knew that a price decline in gold could result in twice as much underlying asset decline for the GLD.

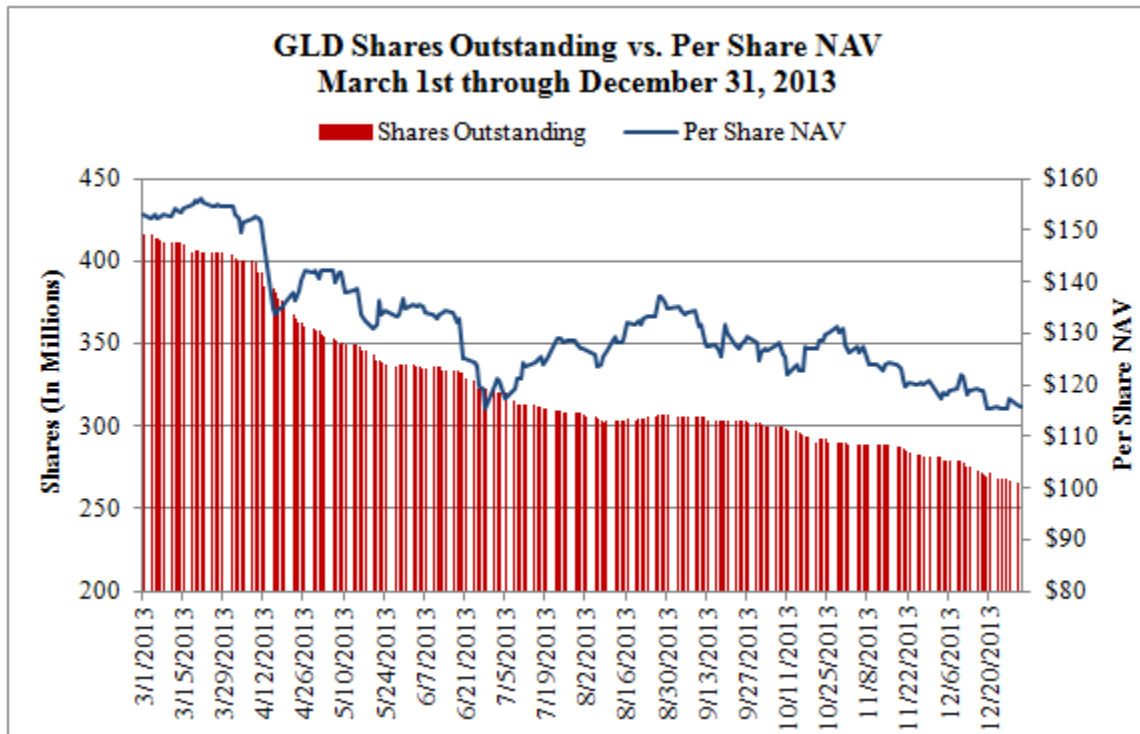
The summary of this period is shown in Table 25.

Table 25 – GLD NAV, Shares Outstanding and Assets Under Management March 31 through December 31, 2013 (212 Trading Days)

Date	Per Share NAV	Shares Outstanding	Total Assets Under Management
3/1/2013	\$153.12	416,400,000	\$63,758,194,679
12/31/2013	\$115.87	266,000,000	\$30,822,044,650
Change	(\$37.25)	(150,400,000)	(\$32,936,150,030)
Percent Change	-24%	-36%	-52%

Chart 3 shows the decline in shares outstanding and the price of the GLD during the 212-day period.

Chart 3 – GLD Shares Outstanding vs. Per Share NAV March 1, 2013 through December 31, 2013 (212 Trading Days)



During the 212-day period, there were over 2.2 billion shares worth \$298 billion traded for the GLD. The 51% short sale percentage on all reporting markets equates to approximately 1.1 billion shares sold short at a value of \$151 billion.

When the GLD assets under management declined at a significantly different rate than the price of the underlying gold, **red flags should have been/were triggered at ETF operators and the GLD auditor** that serious fundamental flaws and asset risks in the GLD exist that have not been properly disclosed to regulators and investors.

Again, A Period of No Net Creation for the GLD – 2014

On January 2, 2014 there were 264.8 million shares outstanding and on September 3, 2014 (169 trading days later) there were 264.1 million shares outstanding; virtually no net change. The underlying asset value (amount of gold holdings) remained flat at the reduced levels of over \$30 billion less than when gold declined by 24% and the GLD gold holdings declined by 52% in the previous discussed period.

During this 169 days, over 1.1 billion GLD shares traded worth \$143 billion with sales of the GLD averaging 62% short each day on reporting SROs/exchanges. Using the reporting markets percentage indicates approximately 704 million shares were sold short worth \$88 billion, while there was **again no net creation of shares**. The summary of this period is shown in Table 26.

Table 26 – GLD NAV, Shares Outstanding and Assets Under Management January 2, 2014 through September 3, 2014 (169 Trading Days)

	1/2/2014	9/3/2014
Per Share NAV	\$118.14	\$121.72
Shares Outstanding	264,800,000	264,100,000
Total Assets Under Management	\$31,424,456,594	\$32,146,670,696

January 2 - September 3, 2014	Volume Between Dates	Value Traded Between Dates
Shares Executed (Consolidated Tape)	1,145,395,200	\$143,114,573,074
Short Sales (Based on SRO Reporting Markets Percent)	703,746,799	\$87,997,877,090

Most investors believe ETFs perform like a type of mutual fund.⁵⁶ For the GLD, the assets under management are deviating from what would be expected from a ‘mutual fund type investment’. This is caused by the creation/redemption process implemented by the ETF operators and Authorized Participants, but not disclosed to regulators or investors. The data shows assets are not created despite incoming investment and synthetic shares increase the number of actual shares trading in the marketplace, which can exacerbate the downfall of the ETF assets under management during large redemption periods in stressed markets or over longer time periods, creating a slow insidious decline in asset value before the risks in the investment are discovered.

⁵⁶ In testimony before the Senate Subcommittee on Securities, Insurance and Investment in October 2011, Eileen Rominger, the director of the SEC’s Division of Investment Management explained the SEC’s understanding of physical ETFs; “ETFs offer investors an undivided interest in a pool of securities and other assets.” “Apart from the fact that ETFs trade intraday, most **ETFs are similar to mutual funds** in that they **both translate investor purchases and sales in the fund** (and **changes in investor sentiment**) **into purchases and sales of underlying holdings**.” Eileen Rominger, Director, Division of Investment Management, *Testimony on Market Micro-Structure: An Examination of ETFs*, October 19, 2011 <http://www.sec.gov/news/testimony/2011/ts101911er.htm>

GLD Assets vs. Gold in 2015

When gold was at its high of approximately \$1,895 per ounce in September 2011, the GLD was priced at \$185. At the end of July 2015, the price of the GLD was fluctuating between \$103 and \$105. In both cases, whether it is the purchase of physical gold or the GLD, the price has declined since September 2011 by approximately the same percentage; 42%.

However, the investor in the GLD also suffered losses from the decline in physical gold assets held by the GLD. In September 2011, at gold's high price, the GLD held approximately 39.6 million troy ounces of gold. By the end of July 2015, the GLD held approximately 21.8 million troy ounces. Not only did the GLD investor lose at the price level from gold's decline, but the physical assets held by the GLD were almost cut in half.

This has occurred because the process of creation has not been happening on a regular basis, but redemptions are being executed and the physical gold held by the GLD is being liquidated.

Since the 2008/2009 financial crisis, the GLD and other ETFs have diverged from their expected relationship with their underlying assets. In this case, it has created a lose-lose for GLD investors, along with a potential collapse of GLD held assets. Moreover, the excessive short selling indicates that there is massive over-leveraging of GLD shares sold that do not actually exist (there are multiple owners for each issued share of the GLD).

When these factors are taken into consideration, it appears that the value of the assets held by the GLD are seriously diluted and over-leveraged, which has created a potentially toxic ETF. Again, these facts are not being disclosed by the ETF operators. The various metrics suggest that another \$200 drop in the price of gold could cause another run in the GLD, which could leave the GLD with little assets.

State Street has not addressed these changes in the makeup of the GLD. Who would invest in the GLD if the above information was clearly disclosed?

B. The S&P 500 ETF (Symbol: SPY)

The data for the S&P 500 ETF (Symbol: SPY) exemplifies the discrepancies/deficiencies and risks that can build undiscovered by investors in ETFs. The SPY is by far the **most important largest volume/value traded ETF in the world**. It is based on S&P 500 securities, which collectively with the SPY account for the majority of value trading each day in the U.S. markets.

The industry's ongoing claim (when required to discuss short selling) is that in essence, it 'can' create shares of ETFs when needed. Don't worry-be happy-trust us, is literally the message coming from ETF operators and Authorized Participants without any data to support these claims. There is a large difference between 'can create' or 'expect to create' and '**are in fact creating**' ETF shares.

J.P. Morgan explained in 2013 specifically that ETF share-lending is operating under an “expectation that Authorized Participants will step in by creating more shares,” at sometime in the future for short sellers to borrow.⁵⁷

However, there has been no significant creation of shares for many large ETFs, such as the XRT, GLD and the SPY, during extended periods of time despite significant trade volumes with excessive short selling.

We do not see any legal support for the ETF industry ‘expectation’ as it relates to providing locates for short sales, affirmative determinations that shares will be borrowed for delivery, affirmations of ‘easy to borrow’ securities or for shares not to be borrowed to complete legal contractual settlement in a timely manner according to U.S. laws, rules and regulations regarding settlement responsibilities.

When ETF shares are sold but not created or borrowed to deliver to the purchaser, the contract between the seller/purchaser has not been fulfilled. As the SEC has stated:⁵⁸

“Where a seller of securities fails to deliver securities on trade settlement date, in effect the seller unilaterally converts a securities contract (which should settle within the standard 3-day settlement period) into an undated futures-type contract, to which the buyer may not have agreed, or that may have been priced differently.”

We do see a correlation between these types of ‘expectations’ and an ‘undated futures-type contract’, which any sensible investor would not agree to if the facts of the transaction were disclosed. In actuality, undated futures contracts do not exist. No investor would knowingly pay 1st quarter 2015 full price for the SPY at around \$200 if they were told they really were investing in the prospect of a future delivery of the security. Futures contracts are priced pennies on the dollar of the underlying securities’ actual market price.

Given the facts, the investor would buy a legitimate, dated futures contract at a fraction of the cost, or the investor might not be willing to invest in the security at all. While this is a very profitable trade for the seller (or its’ clearing firm), it is an over-priced trade disadvantageous to the buyer. The basic theory of this type of transaction raises significant red flags of contractual misrepresentation, fraud and basic theft of the purchaser’s monies, concealed through the guise of a legitimate purchase and sale of a security.

As an example of the lack of share creation for the SPY, on **December 13, 2012**, there were **824.2** million shares outstanding and on **August 7, 2014** (*414 trading days later*), there were **825.6** million shares outstanding; an increase of just 1.4 million shares or a change of only one tenth of 1%; essentially no net change. Between these dates, marketplace volume for the SPY totaled **48 billion shares, worth \$8.2 trillion.**

⁵⁷ J.P. Morgan, Global Asset Allocations, Flows & Liquidity: Are ETFs Dangerous? July 5, 2013

⁵⁸ SEC Release No. 34-56212, File No. S7-12-06, Amendments to Regulation SHO, Filed August 14, 2007, <http://www.sec.gov/rules/final/2007/34-56212fr.pdf>

Reporting markets/SROs showed 65% of all sales were the product of a short sale. Using the reporting markets percentage as a proxy, there were approximately 31 billion shares sold short valued at over \$5.3 trillion during the period.

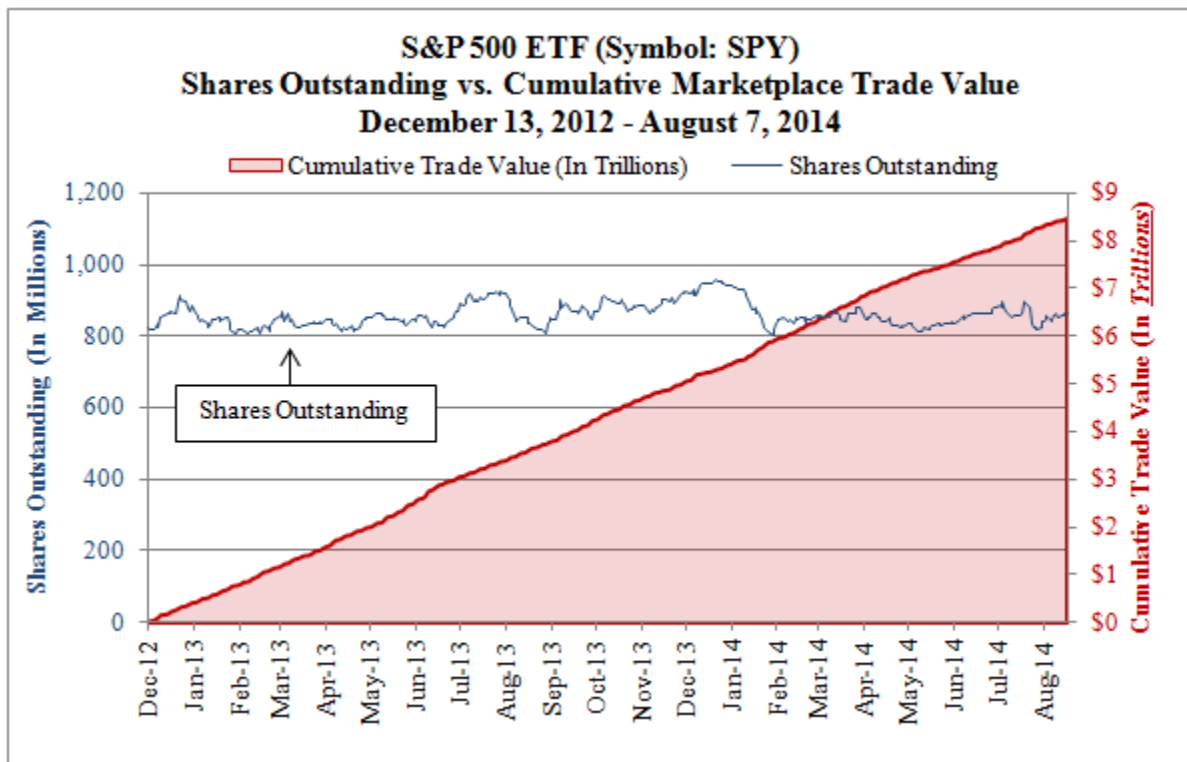
In other words, there was \$8 trillion worth of SPY shares sold with \$5 trillion sold short (not owned by the sellers), **while there was virtually no net creation of shares outstanding to support this trading.** The summary data for this period is shown in Table 27.

Table 27 – SPY Marketplace Volume and Value, with Percent of Short Sales on Reporting Markets December 13, 2012 through August 7, 2014 (414 Trading Days). Shares Outstanding at the Beginning and End of This Period: Approximately 825 Million.

	Trade Volume	Value Based on Daily Closing Price
Total Marketplace	48,206,697,900	\$8,225,654,349,292
Short Sales Based on SRO		
Reporting Markets Percent (65%)	31,162,024,592	\$5,321,631,995,402

Chart 4 shows the SPY shares outstanding remained relatively stable despite the cumulative marketplace trade value growing to \$8.2 trillion.

Chart 4 – SPY Shares Outstanding vs. Cumulative Marketplace Trade Value December 13, 2012 through August 7, 2014 (414 Trading Days)



To put this in perspective, for the full **414-day period**, the average daily trade volume was **116 million shares** for a total volume of **48 billion shares** with a **net change in shares outstanding of 1.4 million shares**; *virtually no net creation*.

Without net creation of shares, the underlying S&P 500 stock holdings by the SPY do not effectively grow. The ETF is not causing capital formation for investors in the SPY, nor in the underlying securities. The incoming capital to the SPY from investors appears to be profitable to the short sellers/clearing firms/Authorized Participants, whom may be executing illegal short sales.

SPY Assets Under Management Growth Equals Returns from Increased Index Prices

From December 13, 2012 through August 7, 2014 (414 trading days), the value of assets underlying the SPY increased during the period by \$40 billion or **34%**. This increase in value was due to the increase price of the S&P 500 Index, which also grew by **34%** during the period. In other words, the SPY asset value increase was from rising underlying stock prices, **not** from an increased growth in actual underlying share ownership. From the creation side of shares outstanding, little or no money was used by the SPY operators and Authorized Participants to increase the net purchases of its underlying securities, in this case S&P 500 companies.

Little Daily Change in SPY Shares Outstanding, Fails to Deliver/Receive and Short Interest

During the 414-day period, on 71% of the days (296), there was **less than 1% change in SPY shares outstanding from the previous day**. There are many time periods when shares outstanding changed less than 1% for consecutive days.

As an example period shown in Tables 28 through 30, from March 25 through April 16, 2013 (16 trading days) the creation/redemption in shares outstanding was less than 1% each day, with the average daily change just 3.5 million shares. At the beginning of the period, there were 249 million shares reported in short interest and 98 thousand shares failed at NSCC.

During the 16-day period, there were 2 billion shares traded worth **\$313 billion**. Based on the reporting markets short sale percent (63% on average), approximately 1.3 billion SPY shares were sold short worth \$197 billion.

Despite the massive volume of shares sold short, **short interest declined during the period**. By April 10th, 241 million shares were reported in short interest and on April 25th, 234 million shares were reported short; a decline of 15 million shares from March 25th.

During the period, NSCC fails did not grow to reflect a large increase in delivery failures despite the 63% level of short selling, shares outstanding being turned over on average **each 8 days by trade volume** and the decreasing shares borrowed for already existing short positions (the data indicates a covering of short interest occurred).

The following data from the largest traded security is compelling evidence that massive trading/short selling without substantial increases in shares borrowed is occurring. Moreover, the number of fails reported by NSCC are not logically tied to the trading/reported short selling in the SPY.

The next data sets reflect various information for these 16 days.

Table 28 – SPY Volume, Short Sale Percentage, Short Interest and NSCC Fails March 25 through April 16, 2013

Trade Date	Total Daily Marketplace Volume (Consolidated Tape)	Percent of Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)	Short Sales Based on SRO Reporting Markets Percent	Short Interest	NSCC Fails
3/25/2013	151,322,300	59%	89,476,876	248,708,900	98,016
3/26/2013	86,856,600	60%	51,705,734		15,711
3/27/2013	99,950,600	63%	63,248,740		77,589
3/28/2013	102,932,800	64%	65,753,473		219,649
4/1/2013	99,194,100	61%	60,359,610		37,674
4/2/2013	101,504,300	64%	64,790,195		44,152
4/3/2013	154,167,400	67%	102,521,321		1,998
4/4/2013	131,885,000	62%	81,900,585		50,677
4/5/2013	159,666,000	60%	95,448,335		<u>239</u>
4/8/2013	86,571,200	66%	56,920,564		72,921
4/9/2013	101,922,200	64%	64,822,519		<u>311</u>
4/10/2013	135,711,100	63%	85,932,269	241,458,300	519,658
4/11/2013	110,142,500	62%	68,244,293		6,800
4/12/2013	116,359,900	66%	76,413,546		404,156
4/15/2013	217,259,000	63%	137,829,110		2,477,191
4/16/2013	147,507,800	63%	93,416,690		545,670
Average	125,184,550	63%			
Change During Period				-7,250,600	
Total	2,002,952,800		1,258,783,858		

Due to the amount of volume and short selling without an increase in short interest or fails at NSCC, there should have been a large amount of shares being created during this period, but this did not happen. Without large creations, significant numbers of SPY shares should have failed at NSCC, but again this did not occur.

For a simple, non-theoretical test, examine/explain the NSCC fails for April 5 and 9, 2013. If one only observes NSCC fails, they indicate virtually perfect settlement is occurring, in contrast to the cumulative trading data that suggests otherwise.

Given the data for this period, NSCC fails are illogical and inconsistent with the 2 billion shares trading, aggressive short selling and decreasing shares borrowed. Internalized and ex-cleared fails to deliver/receive, including offshore re-hypothecated synthetic securities positions

are not reflected in data produced by the NSCC. The amount of fails ex-cleared outside of the national clearance and settlement system operated by DTCC/NSCC appears to be one of the most problematic elements in the current market structure that is increasing risks for all market participants.

For ETFs, the amount of ex-clearing appears to be extreme, which will cause settlement liquidity risks under crisis market conditions. The DTCC/NSCC admits that it cannot quantify the risks that exist from these ex-cleared positions, as obviously they do not go through the NSCC. These risks must be recognized by regulators and acted upon in order to fully understand the systemic risk to the U.S. and global economies from these activities. *This is not a 'maybe we should study this' type problem; this is a real potential threat to the stability of the financial system.*

Shares borrowed and short interest data show declines across U.S. equity securities and ETFs. Moreover, **the value of short interest for the SPY alone was approximately the value of all ETF shares on loan** as of January 2014.⁵⁹

Table 29 shows approximate values of trading activity during the 16-day period.

Table 29 – SPY Value of Marketplace Volume and Short Sale Volume March 25 through April 16, 2013

Trade Date	Total Assets Under Management	Closing Price	Value of Total Daily Marketplace Volume (Consolidated Tape)	Value of Short Sales Based on SRO Reporting Markets Percent
3/25/2013	\$ 127,293,502,485	\$ 154.95	\$23,447,390,385	\$13,864,441,935
3/26/2013	\$ 128,982,833,592	\$ 156.19	\$13,566,132,354	\$8,075,918,590
3/27/2013	\$ 129,436,951,411	\$ 156.19	\$15,611,284,214	\$9,878,820,651
3/28/2013	\$ 129,835,316,887	\$ 156.67	\$16,126,481,776	\$10,301,596,559
4/1/2013	\$ 130,097,538,714	\$ 156.05	\$15,479,239,305	\$9,419,117,117
4/2/2013	\$ 131,241,270,444	\$ 156.82	\$15,917,904,326	\$10,160,398,331
4/3/2013	\$ 129,346,443,373	\$ 155.23	\$23,931,405,502	\$15,914,384,659
4/4/2013	\$ 131,093,521,644	\$ 155.86	\$20,555,596,100	\$12,765,025,178
4/5/2013	\$ 129,762,279,126	\$ 155.16	\$24,773,776,560	\$14,809,763,628
4/8/2013	\$ 130,676,124,040	\$ 156.21	\$13,523,287,152	\$8,891,561,302
4/9/2013	\$ 131,467,526,502	\$ 156.75	\$15,976,304,850	\$10,160,929,885
4/10/2013	\$ 132,648,180,741	\$ 158.67	\$21,533,280,237	\$13,634,873,046
4/11/2013	\$ 133,783,062,623	\$ 159.19	\$17,533,584,575	\$10,863,809,003
4/12/2013	\$ 134,097,140,848	\$ 158.80	\$18,477,952,120	\$12,134,471,157
4/15/2013	\$ 131,184,770,750	\$ 155.12	\$33,701,216,080	\$21,380,051,481
4/16/2013	\$ 133,435,637,998	\$ 157.41	\$23,219,202,798	\$14,704,721,132
Change During Period Total	\$ 6,142,135,513		<u>\$313,374,038,334</u>	<u>\$196,959,883,653</u>

⁵⁹ Financial Stability Oversight Council 2014 Annual Report and Annual Report Data <http://www.treasury.gov/initiatives/fsoc/studies-reports/Pages/2014-Annual-Report.aspx>

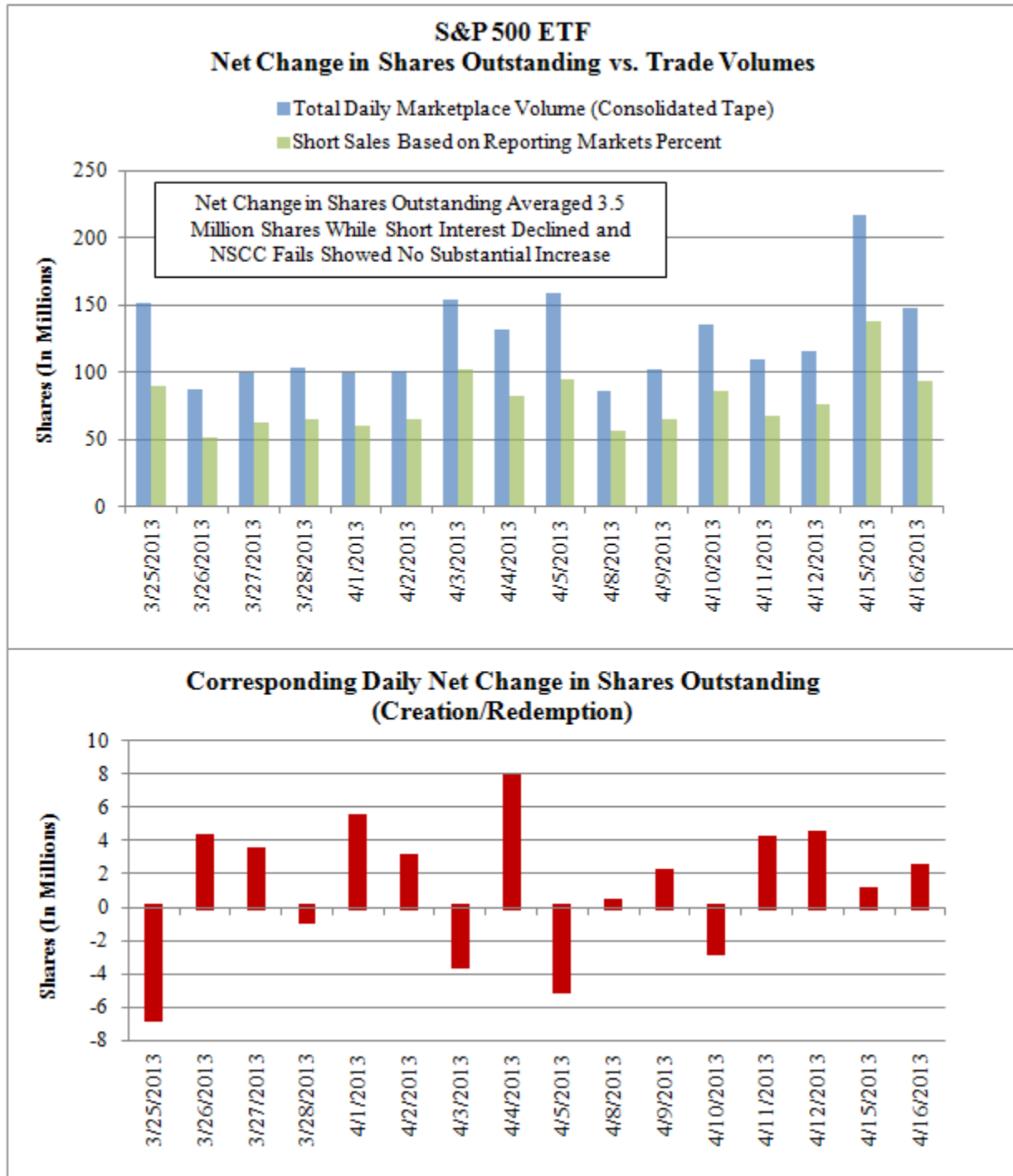
Table 30 – SPY Change in Shares Outstanding March 25 through April 16, 2013

Trade Date	Shares Outstanding	Daily Net Change in Shares Outstanding (Creation/Redemption)	Percent Change in Shares Outstanding
3/25/2013	821,582,116	(6,650,000)	-0.81%
3/26/2013	825,782,116	4,200,000	0.51%
3/27/2013	829,132,116	3,350,000	0.40%
3/28/2013	828,332,116	(800,000)	-0.10%
4/1/2013	833,682,116	5,350,000	0.64%
4/2/2013	836,682,116	3,000,000	0.36%
4/3/2013	833,232,116	(3,450,000)	-0.41%
4/4/2013	841,032,116	7,800,000	0.93%
4/5/2013	836,082,116	(4,950,000)	-0.59%
4/8/2013	836,432,116	350,000	0.04%
4/9/2013	838,532,116	2,100,000	0.25%
4/10/2013	835,832,116	(2,700,000)	-0.32%
4/11/2013	839,932,116	4,100,000	0.49%
4/12/2013	844,282,116	4,350,000	0.52%
4/15/2013	845,332,116	1,050,000	0.12%
4/16/2013	847,732,116	2,400,000	0.28%
Change During Period	<u>26,150,000</u>		
Average	835,850,866	3,537,500	0.42%

The shares outstanding remained virtually unchanged with small daily changes versus the amount of trading and short selling.

Chart 5 shows the net daily change in shares outstanding versus the total marketplace volume and short sale volume based on the reporting markets percent during this 16-day period.

Chart 5 – SPY Net Change in Shares Outstanding vs. Trade Volumes March 25 through April 16, 2013 (16 Trading Days)



During the 16-day period, the average daily trade volume was 125 million shares, with an average daily creation/redemption of (+/-) 3.5 million shares, resulting in a total trade volume of 2 billion versus a net creation of 26 million shares.

The long sales versus short sales are unbalanced (heavily weighted short). In other words, the long sales are insufficient to cover the daily short sold positions. There is clearly a lack of SPY share creation to support the excess short sales. Considering these metrics together, the data suggests the amount of shares traded in washed/matched/fictitious type activity may be significant.

No Supply/Demand Trading Constraints for the SPY

On the reporting dates for institutional money managers, June 30 and September 30, 2014 the SPY was over 80% owned by just reporting institutional managers. Arguably when a security is owned greater than 80% reported through 13F filings, it is logical to surmise that the remaining 20% of shares are likely owned by others whom are not institutional money managers with over \$100 million in assets that are required to report holdings. Simply put, the shares outstanding for the SPY on June 30 and September 30, 2014 appear to be virtually all owned.

From January through June 30, 2014, short interest (additional shares owned short), averaged **242 million shares**. As a further look back from short interest reporting dates **January 15, 2013** through **June 30, 2014**, short interest still averaged **242 million shares**, despite short selling on reporting markets averaging **65%** each day. This is a clear **red flag** that something may be suspect in the short selling for the SPY.

Moreover, within this period from **January 15, 2013 through June 30, 2014 (367 trading days)**, fails at NSCC were zero on 12 days and under 20,000 shares on 25% of the dates or 90 days.

This 367-day period began with **870 million** shares outstanding and ended with a decline to **860 million** shares. Average holdings of institutional money managers filing 13F forms for the SPY during the 18 months exceeded 80% of the shares outstanding.

There was obviously investment monies incoming to the SPY as market prices continued to increase, but this did not result in a net increase of the SPY's holdings of the underlying S&P 500 companies.

Given these metrics, with virtually 100% of SPY shares owned, a decline in shares outstanding and no net substantial change in short interest, supply and demand market theory observers would expect considerable constraints in trading. However, this did not occur as the average number of shares outstanding were sold almost **50 times** or every **7.5 days** during the 367-day period.

At 65% short sales with no increase in short interest, supply constraints should cause substantial fails at NSCC if it were capturing the real amount of fails in the financial system. Again this did not occur, signaling that systemic risk from settlement fails may be building significantly within some clearing firms' books/records outside of the observable view of the national clearance and settlement system and regulators.

Trading and short selling continued (and continues today) unabated without supply constraints. To summarize, **\$7.3 trillion** of the SPY was sold (65% short) during this period (January 15, 2013 through June 2014, 367 trading days) without; a) increasing shares outstanding, b) increasing shares borrowed, or c) NSCC accounting for any sizeable fails and at times reflecting no fails despite the shares averaging over **80% in known ownership** during the period.

There is an obvious disconnect between the value traded in this single security and the growth/lack of growth in underlying security assets attached to the SPY; U.S. blue chip companies. For the SPY, enormous trading is occurring, but investors' monies are not reaching the underlying companies through net investments by the SPY operators/Authorized Participants.

In March 2015, this information on the SPY was made publicly available through our FSOC comment letter submission.⁶⁰ Since that time, short selling on reporting exchanges/SROs has continued at 65% of all shares sold and the average SPY shares outstanding have been turned over every 8.5 days by the trade volume.

The data directly contradicts the SEC's belief as to how ETFs are operating and the disclosure supplied to investors by ETF operators.

C. The iShares Russell 2000 Index Fund ETF (Symbol: IWM)

BlackRock's IWM is considered a liquid security as defined by high trade volumes and execution speed, but is an example of an ETF that is extremely leveraged with mostly illiquid underlying securities. Like other ETF examples discussed herein, the data for the IWM shows trading characteristics of heavy short selling with illogical reporting of short interest and NSCC fails along with little changes in actual share asset holdings.⁶¹

For example, the data from reporting markets for the extended period from November 2010 through September 2014 (985 trading days or almost 4 years) shows reporting markets short sales were **65% of the volume** for the IWM. Using the percentage of short selling on reporting markets as a proxy to calculate the total volume sold short indicates approximately 31 billion shares were sold short during the period.

The IWM's 219 million shares outstanding, reported short interest and NSCC fails at the end of the period do not reflect the massive short selling that occurred in the IWM. Table 31 shows the volume and reported numbers for the IWM at the end of the 985-day period.

⁶⁰ Notice Seeking Comment on Asset Management Products and Activities, FSOC-2014-0001-0001, ID FSOC-2014-0001-0015 <http://www.regulations.gov/#!documentDetail;D=FSOC-2014-0001-0015>

⁶¹ Historical data is not available on a daily basis for any of BlackRock's iShares. The changes in assets/shares outstanding are determined from the IWM's annual and semi-annual reports.

Table 31 – IWM Volume Traded on Reporting Markets from November 2010 through September 2014 (985 Trading Days)

Percent of Short Sale Volume on SRO Reporting Markets (Excluding Unreported Markets)	
	65%
Total Marketplace Volume	47,800,756,300
Total Short Sale Volume Based on SRO Reporting Markets %	30,952,021,631
Total Long Sale Volume Based on SRO Reporting Markets %	16,848,734,669
Total Excess Short Sale Volume Based on SRO Reporting Markets % (Above 50% of Trade Volume)	14,103,286,962
Reported Short Interest September 30, 2014	147,602,600
Reported NSCC Fails on Settlement Date for September 30, 2014	302,019
Shares Outstanding September 30, 2014	219,350,000

According to the data, as the aggressive short selling continues, the number of owners per share is constantly growing (increasing leverage). Using just the excess short sales from November 2010 to September 30, 2014 (remaining shares shorted in the aggregate versus the long shares available to purchase to cover the daily short sales), amounts to **64 owners for each share outstanding** as of September 30, 2014. This data suggests dangerous levels of leverage exist in the IWM that could affect its' 2,000 U.S. underlying companies.

We believe the number of holders and value may be somewhat overstated as a result of excessive washing/matching/'hot potato' type trading, but the value to reconcile positions in just the IWM appears very large. Given the limited price/execution liquidity for the IWM underlying securities, it is very hard to see how a reconciliation of positions could be accomplished without causing extreme costs for major market participants.

As of September 30, 2014, the IWM held 1.4 billion shares of the underlying stocks worth \$24 billion. Taking the reported numbers at face value (64 owners from excess short selling), to reconcile the short positions would require **91 billion shares** of the Russell 2000 stocks at a value of **\$1.5 trillion** as of September 30th, without increased price pressure from the large ETF purchases. To put this in perspective, this amount is over 3 times greater than FOCUS reports⁶² indicate is the total net capital of all registered U.S. brokers and clearing firms at the end of 2013 (the latest available data).

IWM Underlying Securities

The IWM is one of the largest traded ETFs by volume. In July 2015, Morningstar rated the stocks in the IWM as 92% small companies, with 31% rated micro sized. Only 8% of the IWM underlying holdings were classed as medium size companies. Most of these stocks cannot be easily purchased and delivered for settlement or sold in large quantities, without significantly

⁶² FOCUS Reports are filed by U.S. broker-dealers and clearing firms with FINRA. The reports constitute "the basic financial and operational report required of those brokers or dealers subject to any minimum net capital requirement set forth in Rule 15c3-1." SEC Form X-17A-5 Part II General Instructions https://www.sec.gov/about/forms/formx-17a-5_22.pdf

affecting their pricing (i.e. volume/price/execution liquidity is limited in many IWM underlying securities).

On December 5, 2013, short sale exchange data from reporting markets was reviewed for 1,964 underlying companies in the Russell 2000.⁶³ The data showed **1,829 or 93%** of the securities had individually a total **daily trade volume of less than 1 million shares**. Of these, **973 or 50%** of the total securities had a **volume of less than 100 thousand shares** and many are extremely illiquid stocks barely trading.

Table 32 shows the levels of volume executed on all SROs/reporting markets on December 5, 2013 for the 1,964 securities underlying the IWM.

Table 32 – Level of Trade Volume for the IWM Underlying Securities December 5, 2013

Level of Trade Volume on All Reporting Markets	Number of Securities at Volume Level	Cumulative Number of Securities at Volume Level	Percent of Total Securities (1,964)	Cumulative Percent of Total Securities (1,964)
<20k Shares	336		17%	17%
20-50k Shares	305	641	16%	33%
50-100k Shares	332	973	17%	50%
100k-200k Shares	344	1317	18%	67%
200k-500k Shares	380	1697	19%	86%
500k-1m Shares	132	1829	7%	93%
1-2m Shares	74	1903	4%	97%
2-5m Shares	46	1949	2%	99%
5-10m Shares	12	1961	1%	100%
>10m Shares	3	1964	0%	100%

The IWM is traded by high frequency trading firms, but there are few securities in the Russell 2000 that qualify as high frequency traded targets. For example, the 1,317 securities (67%) that traded less than 200,000 shares, down to the 336 stocks that traded less than 20,000 shares, show exceptionally **low liquidity**, i.e. *a missing requirement for high frequency trading*.

Obvious Red Flags from Ownership Claims for the IWM

On several reporting dates from September 2012 through March 2015, like the XRT, ***institutional owners have claimed ownership of more than all of the IWM shares outstanding***.

This is vitally important to grasp. Massive trading activity occurred while more than all of the IWM shares were in known ownership. This characteristic should have caused trading to be seriously constrained for the IWM, but it did not. The large trade volumes and short selling continued without regard to the ownership claims.

⁶³ IWM stocks change frequently from corporate actions, company events etc. and rarely reach 2,000 stocks at a specific point in time.

During the two-year period examined from September 30, 2012 through September 30, 2014, trade volume in the IWM turned over the approximate 220 million shares outstanding every 6 days or over 44 times each year. Short sales on reporting markets averaged 65% or 2 of every 3 shares sold and neither the reported short interest nor NSCC fails supported this high level of short selling. This should have raised red flags that locates for short sales may not have been legitimate. This is a morphing of ETFs far beyond the fundamental way regulators believe ETFs are/were designed to operate.

On September 30, 2014, institutional holdings grew to 308 million shares. There was no sustained increase in reported short interest nor NSCC fails despite continuous daily short selling averaging 65% of trade volume on the reporting markets and essentially no growth in share creations. Note that on September 30, 2012 and two years later on September 30, 2014, there were 220 million IWM shares outstanding.⁶⁴ On August 13, 2015, there were still only 227.7 million IWM shares outstanding.

Table 33 shows example dates of excessive ownership claims for IWM shares.

Table 33 – IWM Shares Held by Institutions above Shares Outstanding, Short Interest and NSCC Fails

	March 31, 2013	September 30, 2013	March 31, 2014
Shares Outstanding	226,550,000	261,950,000	247,500,000
Shares Owned by Institutions	265,793,651	289,524,376	295,482,979
Shares Owned by Institutions Above Shares Outstanding	39,243,651	27,574,376	47,982,979
Reported Short Interest	133,972,600	143,282,000	131,381,700
NSCC Reported Fails	73,350	13,398	20,426

As a simple observation shown in the table; from March 2013 to March 2014, IWM shares outstanding increased by 21 million shares, institutional ownership grew by 30 million shares, short interest declined by 2.6 million shares and NSCC fails were 20 thousand shares. During the one-year period, 10 billion IWM shares traded on the consolidated tape and based on the reporting markets percent of short sales, approximately 6.5 billion shares were the product of a short sale.

On each of the dates in Table 33, reported short interest equaled more than half of the shares outstanding. This trend continued through September 30, 2014, with reported short interest at 67% of the shares outstanding. Typically, academic literature for years has reported short interest averaging between 2.5 and 4% of shares outstanding. This metric of 67% short interest should put a natural constraint on short selling due to availability of shares to borrow and cost to borrow. These constraints are not found in the IWM, which raises significant concerns for systemic risk in settlement liquidity for the IWM along with its' underlying securities in stressed conditions and perhaps risks the IWM could pose to the national clearance and settlement system.

⁶⁴ IWM Shares Outstanding on September 30, 2012: 220,000,000 and on September 30, 2014: 219,350,000.

The IWM is simply excessively over-leveraged when these metrics are considered, with dangerous levels of low liquidity affecting the collective underlying 2,000 companies.

The data suggests ETF operators/Authorized Participants are responsible for not growing share assets of important ETFs. Ultimately, both parties may blame the other for deficiencies in share creation and the probable subsequent liquidity shortfalls. However, at the end of the day, because the Authorized Participants operate under a cloak of anonymity, it is from the big publicly-known ETF operators (i.e. State Street, BlackRock and other ETF administrators) that investors are likely to seek their investment money from, perhaps creating a run on the bank scenario that will cause liquidity freezes at these larger institutions and their ETP Authorized Participants.

D. The iShares U.S. Real Estate ETF (Symbol: IYR)

Below is an example of some assets that might be very difficult to value in a stressed market and yet, it shows many of the same disturbing characteristics discussed above.

The iShares U.S. Real Estate ETF (Symbol: IYR) consisted of 99 underlying real estate investment trust (“REIT”) securities on May 2, 2014. Many of the underlying trusts are of limited or very limited liquidity. Each REIT consists of real estate components such as shopping malls, office space, mortgages, leases, rentals etc., some of which may be questionable in quality/values and available marketable liquidity in stressed market conditions.

Several of the IYR’s underlying holdings are relatively illiquid, but all 99 trusts are underlying securities for numerous ETFs (an average of **50** ETFs are linked to *each* trust). Moreover, some of the large trusts in the IYR, such as American Tower Corporation, Crown Castle International Corp, HCP, Inc., Health Care REIT, Inc., Vornado Realty Trust and Weyerhaeuser Co. (S&P 500 index components) are owned over 80% by just reporting 13F filing institutions, suggesting, like the IYR, they are also over 100% owned.

In a stressed or crisis market, these securities could create a chain reaction liquidity problem throughout these linked ETFs and underlying securities. A liquidity freeze in S&P 500 related products would likely freeze the REITS underlying the IYR. Conversely, stress could reverberate into the S&P 500 products from a disruption of the IYR components.

On December 31, 2013, the 13Fs filed with the SEC showed there were 311 reporting institutions claiming ownership of the IYR shares. Institutional holders reported owning ***124 million shares*** when there were just ***64 million shares*** outstanding at the end of the period. In other words, nearly two times the IYR shares outstanding were owned by just reporting institutions.

As shown in Table 34, just the ***top 5 holders*** out of the 311 institutions owned considerably more than all of the 64 million IYR shares outstanding at 2013 year-end reporting date.

Table 34 – Top 5 Institutional Owners of the IYR on December 31, 2013

Institutional Holder	Shares Held	Percent of Shares Outstanding Held
Bank of America Corp	18,291,571	29%
Citigroup Inc	15,766,289	25%
Morgan Stanley	15,215,973	24%
Goldman Sachs Group Inc	13,383,122	21%
JP Morgan Chase & Co.	12,469,566	19%
Total	75,126,521	117%

From November 2010 through May 2, 2014 (881 trading days), the IYR traded on average **9 million shares** daily or remarkably over **one half billion dollars per day**. In other words, over the 3 ½ years, the average **64 million shares outstanding were turned over rapidly; every 7 days**.

Even though all of the shares outstanding have been in known ownership for the entire 881-day period, the IYR traded 8 billion shares worth over **½ trillion dollars**.

It is very difficult to explain and justify how this could occur in a security that is consistently in a condition where more owners exist than there are shares outstanding.

More IYR Shares Reported Short than Outstanding

As of May 2, 2014, there were 63 million IYR shares reported outstanding (long) while there were 98 million shares reported in short interest as of April 30, 2014. Approximately 161 million shares (63 million long plus 98 million short) exist in some state of ownership with only 63 million real shares. At least 37 million shares (161 million minus 124 million owned by institutions), were purchased by non-13F reporting investors or 59% more than the shares outstanding.

There is a stair step down in liquidity as there are more and more owners of the same IYR shares. Moreover, the increasing number of ETFs and other derivatives that are linked to the same securities can severely reduce the available liquidity under stressed market conditions.

Using just these metrics indicate there were **open positions awaiting IYR securities for around 100 million shares, an approximate \$7 billion liability**, and this is without natural market forces causing a traditional short squeeze. Considering the illiquid nature of some of the underlying trusts that are linked to other ETFs and derivatives, if stressed, cascading short squeezes may occur. The squeezes may result in serious imbalances in underlying asset values and ultimately there could be significant liquidity freezes due to the inability to settle at reasonable market prices.

E. The SPDR Nuveen S&P High Yield Municipal Bond ETF (Symbol: HYMB)

In Question 14, the SEC asked about ETPs that suspend creations or redemptions. During the week from June 17th through June 21, 2013, State Street experienced redemption issues in some of its ETFs.⁶⁵ State Street has no obligation to pay cash, but when the market for municipal bonds became stressed, State Street had to notify its Authorized Participants that they would only receive actual municipal bond securities if they redeemed against State Street's suite of municipal bond ETFs.⁶⁶ State Street halted cash payments to its Authorized Participants for municipal bond ETFs when the ETFs were slightly stressed from larger than normal redemptions.

When State Street halted cash payments for redemptions, it essentially put the responsibility of finding a market to sell the basket of illiquid municipal securities on the Authorized Participants. There is very little secondary market, if any, for many municipal bonds to find enough liquidity to trade.

It is this kind of action by State Street that signals how easily some ETFs could simply have liquidity freeze ups, with the sponsors/operators and Authorized Participants ending up with in essence, illiquid securities that they may not be able to purchase or sell to complete contractual settlement.

According to media reports, in June 2013 one of the ETFs State Street halted cash redemptions for was the municipal bond based SPDR Nuveen S&P High Yield Municipal Bond ETF (Symbol: HYMB).⁶⁷ Very little trading occurred to drain this ETF of cash in June 2013. It appears there were simply larger than normal redemption requests.

Important: If the valuation and liquidity by State Street of the underlying municipal bond holdings were accurate, the Authorized Participants should not have been concerned whether they received cash or the underlying bonds. Conversely, State Street (as the ETF operator) should have been able to liquidate the bonds without problems and continue allowing normal redemptions.

As of November 11, 2014, the HYMB portfolio contained \$341 million in 396 municipal bonds, a line item for a positive \$4 million in cash and a negative \$4.5 million in cash. We are

⁶⁵ Summarizing a relevant statement from FSOC: "The Council understands that pooled investment vehicles may employ a variety of techniques to manage liquidity risks"... "Many exchange-traded funds (ETFs) redeem in kind as a matter of course, and those that allow authorized participants (APs) to redeem in cash frequently impose transaction or liquidity fees that force the AP to bear the liquidity-related costs of its own redemption"... "The Council is interested in the effectiveness of these measures during periods of overall market stress, as well as the potential impact on broader financial markets from the exercise of such measures."

⁶⁶ Wall Street Journal article, *State Street Temporarily Stops Cash Redemptions For Muni-Bond ETFs*, Chris Dieterich, June 21, 2013 <http://blogs.wsj.com/moneybeat/2013/06/21/state-street-temporarily-stops-cash-redemptions-for-muni-bond-etfs/>

⁶⁷ Bloomberg article, *ETF Tracking Errors in Rout Shows Access Comes With Risks*, Christopher Condon and Michelle Kaske, June 23, 2013 <http://www.bloomberg.com/news/2013-06-24/etf-tracking-errors-in-rout-shows-access-comes-with-risks.html>

not making a judgment on the quality of the underlying bonds, but on their salability/liquidity, which reflects truer valuations under stress.

Eligibility criteria for the HYMB's underlying index, the S&P Municipal Yield Index, states; a) 70% of the index bond value must be non-rate or not higher than BB+, b) 20% must be between BBB- and BBB+, and c) 10% must be between A- and A+. ⁶⁸

Table 35 shows some of the portfolio securities in the HYMB ETF in November 2014 that could be required to be sold for redemption purposes (selection criteria was 5.5 coupon or higher).

Table 35 – Example Municipal Bonds Underlying the HYMB on November 11, 2014

Name	Coupon	Maturity	Name	Coupon	Maturity
PUERTO RICO INDL TOURIST EDUCT	6	7/1/2033	DETROIT MI SWR DISP SYS REVENU	5.5	7/1/2029
PUERTO RICO INDL TOURIST EDUCT	5.5	12/1/2031	GUAM GOVT WTRWKS AUTH WTR & WS	5.625	7/1/2040
S WSTRN IL DEV AUTH HLTH FAC R	7.625	11/1/2048	GASTON CNTY NC INDL FACS & POL	5.75	8/1/2035
WIREGRASS FL CDD CAPITAL IMPTR	5.625	5/1/2045	REGL CO TRANSPRTN DIST PRIV AC	6	1/15/2034
QUECHAN INDIAN TRIBE AZ FORT Y	9.75	5/1/2025	MONROE CNTY PA INDL DEV AUTH S	6.875	7/1/2033
CENTRL TX REGL MOBILITY AUTH R	5.75	1/1/2025	SEVEN OAKS FL CMNTY DEV DIST	6.5	5/1/2033
MULTNOMAH CNTY OR HOSP FACS AU	5.5	10/1/2049	RENAISSANCE CMNTY DEV DIST FLA	5.55	5/1/2033
PIMA CNTY AZ INDL DEV AUTH EDU	6	7/1/2048	GUAM GOVT	6.75	11/15/2029
SHELBY CNTY TN HLTH EDUCTNL &H	5.5	9/1/2047	FOOTHILL ESTRN TRANSPRTN CORRI	6.25	1/15/2033
SALINE MI ECON DEV CORP	5.5	6/1/2047	GRANBY RANCH CO MET DIST	6.75	12/1/2036
PUERTO RICO PUBLIC BLDGS AUTH	5.5	7/1/2035	BLOOMINGTON MN PORT AUTH RECOV	9	12/1/2035
PUERTO RICO PUBLIC BLDGS AUTH	6	7/1/2027	RED RIVER TX HLTH FACS DEV COR	7.5	11/15/2034
HUDSON NY YARDS INFRASTRUCTURE	5.75	2/15/2047	VALPARAISO IN EXEMPT FACS REVE	6.75	1/1/2034
COLLIER CNTY FLA INDL DEV AUTH	8.125	5/15/2044	PALOMAR POMERADO CA HLTH CARE	6	11/1/2041
HOWARD CNTY MD SPL OBLIG	6.1	2/15/2044	MARCH CA JT PWRS REDEV AGY TAX	7.5	8/1/2041
S ESTRN OH PORT AUTH HOSP FACS	6	12/1/2042	JEFFERSON PARISH LA HOSP SVC D	6.375	7/1/2041
LAKE CNTY FL INDL DEV REVENUE	7.125	11/1/2042	AVE MARIA FL STEWARDSHIP CMNTY	6.7	5/1/2042
LAKES BY THE BAY S FL CDD ASSM	5.75	11/1/2042	PUERTO RICO ELEC PWR AUTH PWR	5.5	7/1/2018
VIGO CNTY IN HOSP AUTH	5.75	9/1/2042	LEES SUMMIT MO INDL DEV AUTH S	6	5/1/2042
LEE CNTY FL INDL DEV AUTH	5.75	6/15/2042	CHAUTAUQUA CNTY NY INDL DEV AG	5.875	4/1/2042
TRAVIS CNTY TX HLTH FACS DEV C	7.125	11/1/2040	DE KALB CNTY GA HOSP AUTH	6.125	9/1/2040
COMPARK BUSINESS CAMPUS CO MET	6.75	12/1/2039	FLOWER MOUND TX SPL ASSMNT REV	6.125	9/1/2028
RIVERSIDE CNTY CA REDEV AGY	6	10/1/2039	DANBURY TX HGR EDU AUTH INC ED	6	8/15/2028
GREAT WSTRN CO MET DIST	9	8/1/2039	SPARKS NV TOURISM IMPT DIST #1	6.75	6/15/2028
COLORADO ST HLTH FACS AUTH REV	7.75	8/1/2039	COMPARK BUSINESS CAMPUS CO MET	5.75	12/1/2027
HARBOR POINT CT INFRASTRUCTURE	7.875	4/1/2039	RUMFORD ME SOL WST DISP REVENU	6.875	10/1/2026
PUERTO RICO INFRASTRUCTURE FIN	5.5	7/1/2027	WATSON RD AZ CMNTY FACS DIST S	5.75	7/1/2022
CALIFORNIA SCH FIN AUTH SCH FA	6	10/1/2049	SPANISH FORK CITY UT CHRT SCH	5.55	11/15/2021
PIEDMONT SC MUNI PWR AGY ELEC	6.25	1/1/2021	MONTGOMERY CNTY PA INDL DEV AU	6	2/1/2021
CALIFORNIA ST MUNI FIN AUTH MO	5.875	8/15/2049	ALACHUA CNTY FL HLTH FACS AUTH	7.375	11/15/2019
CALIFORNIA ST STWD CMNTYS DEV	6	10/1/2047	NEW YORK CITY NY INDL DEV AGY	5.75	10/1/2037
WISCONSIN ST PUBLIC FIN AUTH R	8.625	6/1/2047	COLORADO ST HLTH FACS AUTH REV	5.9	8/1/2037
CALIFORNIA ST STWD CMNTYS DEV	7	7/1/2046	NEW JERSEY ST HLTH CARE FACS F	5.75	7/1/2037

⁶⁸ S&P Municipal Yield Index Methodology, July 2014 <http://us.spindices.com/indices/fixed-income/sp-municipal-yield-index>

Table 35 – Continued

Name	Coupon	Maturity	Name	Coupon	Maturity
ILLINOIS ST FIN AUTH REVENUE	5.75	5/15/2046	KANSAS ST INDEP CLG FIN AUTH E	5.8	3/1/2037
UTAH ST CHRT SCH FIN AUTH CHRT	7	7/15/2045	MAINE ST HLTH & HGR EDUCTNL FA	6.75	7/1/2036
NEW YORK ST LIBERTY DEV CORP L	7.25	11/15/2044	LOUISIANA PUBLIC FACS AUTH DOC	6.5	7/1/2036
FLORIDA ST DEV FIN CORP EDUCTN	6.5	7/1/2044	TULSA OK MUNI ARPT TRUST TRUST	5.5	12/1/2035
FLORIDA ST DEV FIN CORP EDUCTN	6.125	6/15/2044	CALIFORNIA ST PUBLIC WKS BRD L	6.625	11/1/2034
FLORIDA ST DEV FIN CORP EDUCTN	6	6/15/2044	WISCONSIN ST HLTH & EDUCTNL FA	5.5	5/1/2034
WICHITA KS HLTH CARE FACS REVE	5.625	5/15/2044	ILLINOIS ST FIN AUTH REVENUE	7.125	2/1/2034
CO HIGH PERFORMANCE TRANSPRTN	5.75	1/1/2044	SOUTH CAROLINA ST JOBS-ECON DE	7	11/1/2033
FLORIDA ST DEV FIN CORP EDUCTN	6.125	6/15/2043	FLORIDA ST DEV FIN CORP EDUCTN	7.5	6/15/2033
THE CHILDRENS TRUST FUND PR TO	5.625	5/15/2043	LOUISIANA ST LOCAL GOVT ENVRNM	6.75	11/1/2032
TACOMA WA CONSOL LOCAL IMPT DI	5.75	4/1/2043	DIST OF COLUMBIA REVENUE	6.25	10/1/2032
HARRIS CNTY TX CULTURAL EDU FA	7	1/1/2043	MARIPOSA E NM PUBLIC IMPT DIST	6	9/1/2032
PUBLIC FIN AUTH WI CHRT SCH RE	6.2	10/1/2042	PHOENIX AZ INDL DEV AUTH EDU R	6	7/1/2032
JEFFERSON CNTY AL SWR REVENUE	6	10/1/2042	DELAWARE VLY PA REGL FINANCIAL	5.75	7/1/2032
PHOENIX AZ INDL DEV AUTH EDU R	7.5	7/1/2042	PENNSYLVANIA ST ECON DEV FING	6	6/1/2031
PHOENIX AZ INDL DEV AUTH EDU R	7.5	7/1/2042	TULSA CNTY OK INDL AUTH SENIOR	7.125	11/1/2030
PHILADELPHIA PA HOSPS & HGR ED	5.625	7/1/2042	RED RIVER TX AUTH	6.7	11/1/2030
VIRGINIA ST SMALL BUSINESS FIN	5.5	1/1/2042	HOUSTON TX ARPT SYS REVENUE	6.5	7/15/2030
TARRANT CNTY TX CULTURAL EDU F	5.625	11/15/2041	MASSACHUSETTS ST EDUCTNL FING	5.625	7/1/2029
MICHIGAN ST FIN AUTH LTD OBLG	8.125	4/1/2041	PUBLIC AUTH FOR COLORADO ST EN	6.25	11/15/2028
COOK CNTY IL REVENUE	6.5	10/15/2040	PITTSBURG CA REDEV AGY TAX ALL	6.5	9/1/2028
INDIANA ST FIN AUTH HOSP REVEN	5.5	8/15/2040	NEW YORK CITY NY INDL DEV AGY	8.5	8/1/2028
TEXAS ST PRIV ACTIVITY BOND SU	7	6/30/2040	DELAWARE VLY PA REGL FINANCIAL	5.5	8/1/2028
PUBLIC FIN AUTH WI EDUCTNL FAC	7	5/1/2040	NEW JERSEY ST ECON DEV AUTH SP	5.75	9/15/2027
TOLOMATO FL CDD	6.65	5/1/2040	ILLINOIS ST FIN AUTH REVENUE	6.125	5/15/2027
TOLOMATO FL CDD	6.65	5/1/2040	INDIANA ST FIN AUTH ENVRNMNTL	6	12/1/2026
TOLOMATO FL CDD	6.65	5/1/2040	MADISON CNTY FL	6	7/1/2025
M-S-R CA ENERGY AUTH GAS REVEN	6.5	11/1/2039	OHIO ST AIR QUALITY DEV AUTH	6.75	6/1/2024
THE CHILDRENS TRUST FUND PR TO	5.5	5/15/2039	IOWA ST FIN AUTH MIDWSTRN DISA	5.5	12/1/2022
ILLINOIS ST FIN AUTH REVENUE	7.125	2/15/2039	HESPERIA CA PUBLIC FING AUTH	5.5	9/1/2022
TEXAS ST PRIV ACTIVITY BOND SU	7	12/31/2038	INDIANA ST FIN AUTH ENVRNMNTL	6	12/1/2019
PENNSYLVANIA ST HGR EDUCTNL FA	6.5	9/1/2038	OHIO ST AIR QUALITY DEV AUTH	5.625	10/1/2019
UTAH ST CHRT SCH FIN AUTH CHRT	5.8	6/15/2038	NEW YORK CITY NY INDL DEV AGY	7.5	8/1/2016
NEW YORK ST DORM AUTH REVENUES	6.25	12/1/2037	MASSACHUSETTS ST PORT AUTH FAC	5.5	1/1/2016

If the underlying securities are illiquid and the ETF is illiquid; the actual asset value estimated by the ETF management may be very questionable.

Non-Compliance with the 1940 Investment Company Act

Many ETFs hold illiquid underlying assets and could provoke substantial risks for the ETF marketplace. These risks could be mitigated with little apparent disruption to the markets by changing the product type investment descriptions, disconnecting them from products registered under the 1940 Investment Company Act (“1940 Act”) and fully disclosing the type of investments these funds actually represent.

The SEC has designated that an open-end fund registered under the 1940 Act (most ETFs today) is to invest no more than **15% of its' assets** in illiquid securities stating:⁶⁹

“The term "illiquid security" generally includes any security which cannot be disposed of promptly and in the ordinary course of business without taking a reduced price. A security is considered illiquid if a fund cannot receive the amount at which it values the instrument within seven-days.”

The SEC cautioned that the guidelines would not:⁷⁰

“...relieve a fund from the requirements concerning valuation and the **general responsibility to maintain a level of portfolio liquidity that is appropriate** under the circumstances. If no market quotations for an illiquid security are available, the board of directors of the fund will be required to determine the fair value of the security. In addition, the **Commission expects funds to monitor portfolio liquidity on an ongoing basis** to determine whether, in light of current circumstances, an **adequate level of liquidity is being maintained**.”

ETFs based on corporate bonds, mortgage-backed securities, municipal bonds, Real Estate Investment Trusts (“REITs”) and other potentially illiquid assets may be hard to sell or value in a stressed market environment.

This subgroup of ETF products do not seem to fit with other ETFs registered under the 1940 Act. As the data shows many of these products are illiquid ETFs with illiquid underlying assets that are hard to value in times of stress and will not be able to comply with the SEC’s expectation of “funds to **monitor portfolio liquidity on an ongoing basis** to determine whether, in light of current circumstances, an **adequate level of liquidity is being maintained**”.

For many of these illiquid underlying assets, there is no readily available market. The collateral for some ETFs may be underfunded. If certain ETFs are not currently in compliance with the 1940 Act, they should/could be terminated from this class of securities.

F. The Industrial Select Sector SPDR ETF (Symbol: XLI)

In January 2005, the SEC implemented Regulation SHO, which was designed to:⁷¹

“Establish uniform locate and delivery requirements in order to address potentially abusive naked short selling and other problems associated with failures to deliver... Rule 203 is a targeted approach that incorporates the provisions of existing SRO rules while

⁶⁹ *Acquisition and Valuation of Certain Portfolio Instruments by Registered Investment Companies*, SEC Release No. IC-14983, March 17, 1986 <http://www.sec.gov/rules/final/1986/ic-14983.pdf>

⁷⁰ *Revisions of Guidelines to Form N-1A*, SEC Release No. 33-6927, March 20, 1992 <http://www.sec.gov/rules/other/1992/33-6927.pdf>

⁷¹ Securities and Exchange Commission Release No. 34-50103, File No. S7-23-03, Regulation SHO Final Rule and Interpretation, August 6, 2004, <http://www.sec.gov/rules/final/34-50103.htm> and Securities and Exchange Commission Release No. 34-60388, File No. S7-30-08, Amendments to Regulation SHO, July 31, 2009 <http://www.sec.gov/rules/final/2009/34-60388fr.pdf>

imposing additional restrictions where we believe appropriate to address naked short selling while protecting and enhancing the operation, integrity, and stability of the markets.”

Accordingly, a Regulation SHO threshold security should receive protections from abusive short selling through heightened regulatory oversight, hard to borrow status, tighter restrictions on locates/affirmative determinations for short selling and buy-ins of shares that have failed to be delivered to the purchaser.

The Industrial Select Sector SPDR ETF (Symbol: XLI) is one of State Street’s 9 ETFs that are based on specific sectors of the S&P 500 securities. The XLI’s holdings are liquid blue chip securities. The data indicates that even under special settlement and short sale limit requirements provided by Regulation SHO the XLI short sale trading continued unaffected.

The XLI has historically been heavily sold short on reporting markets. In 2014, short selling for the XLI averaged 69% on reporting markets/SROs. Using the reporting markets percent of short selling as a proxy for the consolidated tape equates to approximately **1.8 billion shares** worth **\$95 billion in short sales** during just 2014.

From January 14th through February 9, 2015 (18 trading days) the **XLI was on the NYSE Regulation SHO threshold list**, which should have provided it regulatory protection from abusive short selling. One would expect a Regulation SHO designation should cause an immediate decline in short selling due to tighter locate and delivery requirements while failed to deliver positions would be bought-in.

In contradiction to this expectation, Table 36 shows the percentage of short selling continued along with a rise in volume prior to and during the period the XLI was a Regulation SHO threshold security. During the 18 days short selling in the XLI should have been constrained, reporting markets showed ***2 of every 3 shares sold*** were the product of short sales.

While the real number of Regulation SHO status securities is under-reported due to ex-clearing, Regulation SHO’s basic concepts are very important to the proper functioning of the supply and demand capital markets. Some clearing firms have opted to circumvent this regulation via bypassing reporting their settlement obligations to the national clearance and settlement system.

Again, this shows the importance of concentrating on the national clearance and settlement system to mitigate future catastrophic financial events from excessive buildup of leverage outside of the NSCC by some firms who are, most likely, ‘too big to fail’, including some who may be ETF operators or their Authorized Participants.

Table 36 – XLI Consolidated Tape Volume, Reporting Markets Short Sale Percentage and Share Accounting December 26, 2014 through February 9, 2015⁷²

Date	Shares Outstanding	Marketplace Volume (Consolidated Tape)	Percent of Short Sale Volume on All SRO Reporting Markets	Total Short Sale Volume Based on SRO Reporting Markets Percent	Reported Short Interest (Reflective of Shares Borrowed)	NSCC Fails
12/26/2014	163,576,000	5,733,400	76%	4,375,403	36,047,200	255,457
12/29/2014	163,826,000	3,565,000	60%	2,149,348		85,560
12/30/2014	163,526,000	3,602,800	75%	2,717,319		2,767
12/31/2014	163,976,000	5,572,900	70%	3,890,509		853
1/2/2015	163,976,000	10,982,800	69%	7,596,779		110,429
1/5/2015	163,776,000	15,144,700	73%	11,006,722		2,194,123
1/6/2015	159,026,000	19,209,800	68%	13,153,544		3,653,257
1/7/2015	159,826,000	11,770,300	68%	8,058,186		3,651,478
1/8/2015	159,026,000	11,419,800	54%	6,179,761		3,408,710
1/9/2015	158,326,000	10,168,200	70%	7,129,123		3,487,095
1/12/2015	157,626,000	11,229,500	63%	7,029,970	44,974,500	55,569
1/13/2015	158,076,000	17,530,900	65%	11,459,495		2,323,809
1/14/2015						
Regulation SHO Listed	156,226,000	19,597,500	71%	13,900,053		4,579,261
1/15/2015	155,026,000	15,614,500	76%	11,868,973		5,392,063
1/16/2015	155,376,000	16,371,500	68%	11,105,347		1,769,058
1/20/2015	155,776,000	11,072,100	63%	6,970,588		173,345
1/21/2015	157,126,000	8,943,500	64%	5,728,600		4,497
1/22/2015	158,676,000	10,950,900	66%	7,174,864		243,533
1/23/2015	159,176,000	10,148,200	68%	6,891,994		102,691
1/26/2015	156,626,000	6,037,000	66%	3,991,963		1,288,739
1/27/2015	154,926,000	12,118,500	60%	7,298,826	48,640,800	1,074,629
1/28/2015	153,526,000	14,673,900	60%	8,803,326		1,612,890
1/29/2015	149,976,000	14,215,100	65%	9,248,654		1,917,334
1/30/2015	150,226,000	14,650,000	69%	10,069,616		1,725,428
2/2/2015	149,426,000	19,465,900	69%	13,472,137		330,640
2/3/2015	151,626,000	18,896,200	61%	11,609,530		6,029
2/4/2015	155,426,000	10,600,000	56%	5,976,443		525
2/5/2015	152,426,000	9,193,800	67%	6,159,718		10
2/6/2015	153,426,000	6,192,200	59%	3,670,260		3,502
2/9/2015	151,826,000	7,112,100	69%	4,933,720		N/A
Total Since Becoming a Threshold Security		225,852,900	66%	148,874,613		
Change Since Becoming a Threshold Security	-6,250,000					

⁷² Regulation SHO Threshold: “for five consecutive settlement days, there are fails to deliver at a registered clearing agency of 10,000 shares or more per security, and that is equal to at least one-half of one percent of the issue’s total shares outstanding.” The SEC’s Key Points about Regulation SHO states: “For the securities for which an SRO is the primary market, that SRO calculates whether the level of fails for each security is equal to, or greater than, 0.5% of the issuer’s total shares outstanding of the security. If, for five consecutive settlement days, such security satisfies these criteria, then such security is a threshold security. Each SRO includes such security on its daily threshold list until the aggregate fails level for the security falls below these levels for five consecutive days.”

The reported short interest and NSCC fails do not appear to be accurately reflecting these metrics. Between short interest reporting dates of mid-month and the end of January (10 trading days), **64 million shares were sold short** just on reporting markets, but short interest (shares borrowed) increased by **less than 4 million shares** and there were **only 1 million shares failed** at NSCC at the end of the period.

Using the reporting markets/SROs percent of short selling as a proxy, equates to approximately **149 million shares sold short** during the 18 days the XLI was a **Regulation SHO security**. In other words, the average XLI shares outstanding (154 million) were nearly turned over **just by short sales**, indicating the **ETF did not receive protection from abusive short selling despite being publicly listed as a Regulation SHO security**.

There are numerous other ETF examples of problematic trading, short selling, settlement issues, but these examples highlight the serious concerns that should be at the forefront for ETF operators, Authorized Participants, investors and regulators. We now proceed with additional risks that are coming from ETFs.

Section 5 – Extreme Short Selling vs. Securities Lending

Increased Systemic Risk from Decreased Securities Lending Since the Financial Crisis

As shown by the data, there is a disconnect between short selling and securities lending that cause significant concerns of; a) systemic risk from excess ownership resulting in over-leveraged positions across the asset management, broker-dealer/clearing firm and investment funds industries, b) unknown liability to cover short positions, c) inadequate collateralization, and d) unlimited real net capital risks for some firms creating synthetic positions. The data is very clear; securities lending has **declined** while short selling has **increased**. All metrics we have examined support this conclusion.

Moreover, additional evidence of this was released in the Financial Stability Oversight Council's 2014 Annual Report.⁷³ Charts 5.2.10 and 5.2.11 in the FSOC report show the values and composition of securities lending from 2008 through January 2014. The underlying data sets are not available, but two trends are illustrated in the FSOC charts; a) **securities lending has flat-lined**, and b) the composition of equity securities lending has remained relatively consistent (specifically ETF lending has been consistently flat in value despite the increasing number of products, market prices and short selling).

If the following is incorrectly reported to regulators, then there is a **serious problem** with long-term reporting of securities data to financial authorities. The FSOC, FOCUS Reports and short interest reporting all suggest this underlying trend is correct and that a significant change in securities lending occurred after the market crisis bottom in March 2009.⁷⁴ This trend has flat-

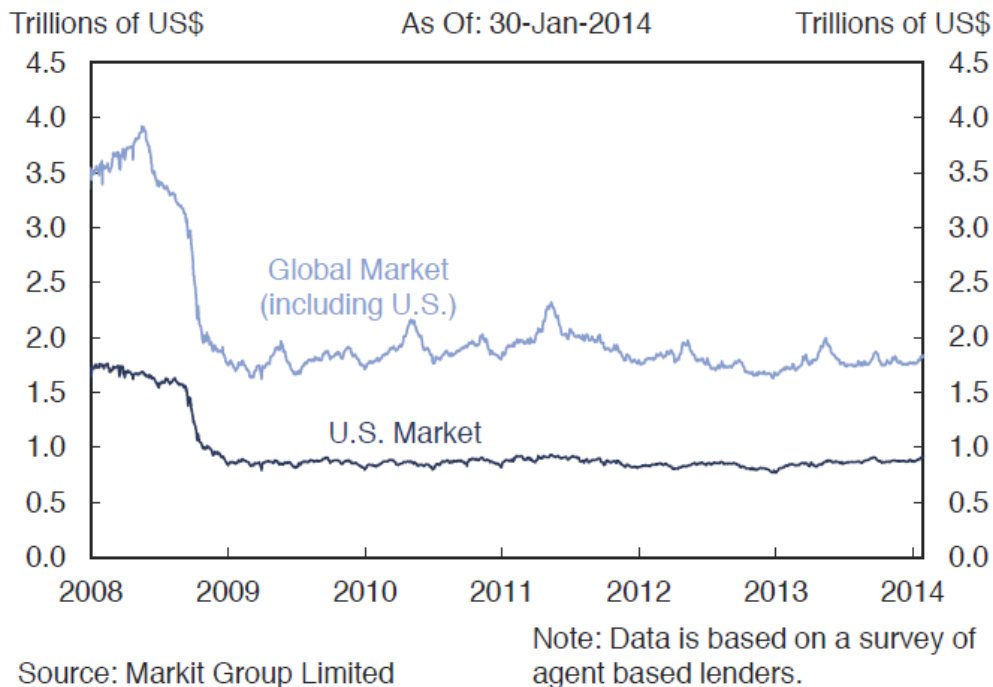
⁷³Financial Stability Oversight Council 2014 Annual Report and Annual Report Data
<http://www.treasury.gov/initiatives/fsoc/studies-reports/Pages/2014-Annual-Report.aspx>

⁷⁴ In case there is any confusion between securities lending and the repo markets, the Federal Reserve Bank of New York reports that equity securities and ETFs total a minute amount of repos, contributing almost nothing in value to the securities lending discussion. http://www.newyorkfed.org/banking/tpr_infr_reform_data.html

lined for five years despite enormous short selling reported on U.S. exchanges and increased market value of securities.

FSOC Chart 5.2.10 – Value of Securities on Loan

5.2.10 Value of Securities on Loan



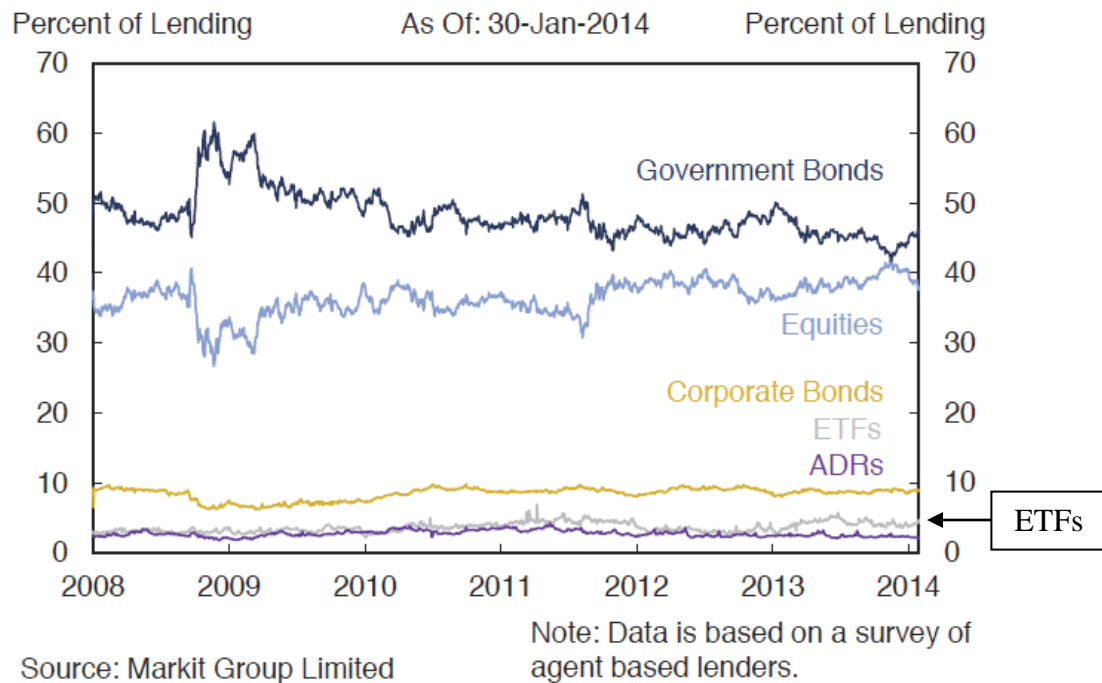
High levels of short selling without share lending (described as naked short selling by the SEC) disrupts the natural supply/demand in the lending market that causes constraints on short selling through cost to borrow and available supply. If shares are not borrowed for short selling, the publicized price to borrow will not reflect the true price to borrow securities (including those considered ‘hard to borrow’). In other words, the less borrowing for short sales, the more supply continues to be available that normally would not be in a well-functioning securities lending market.

Large-scale short selling without share lending and adequate collateral have been a market and regulatory concern for decades. These factors could be a driving force in altering the true supply and demand marketplace, its’ pricing and in the end, result in potential liquidity freezes, which could occur under these circumstances.

FSOC report Chart 5.2.11, Composition of Securities Lending by Security Type, shows by tradable instrument, the historical percentage of lending since 2008 that Chart 5.2.10 is reporting.

FSOC Chart 5.2.11 – Composition of Securities Lending by Security Type

5.2.11 Composition of Securities Lending by Security Type



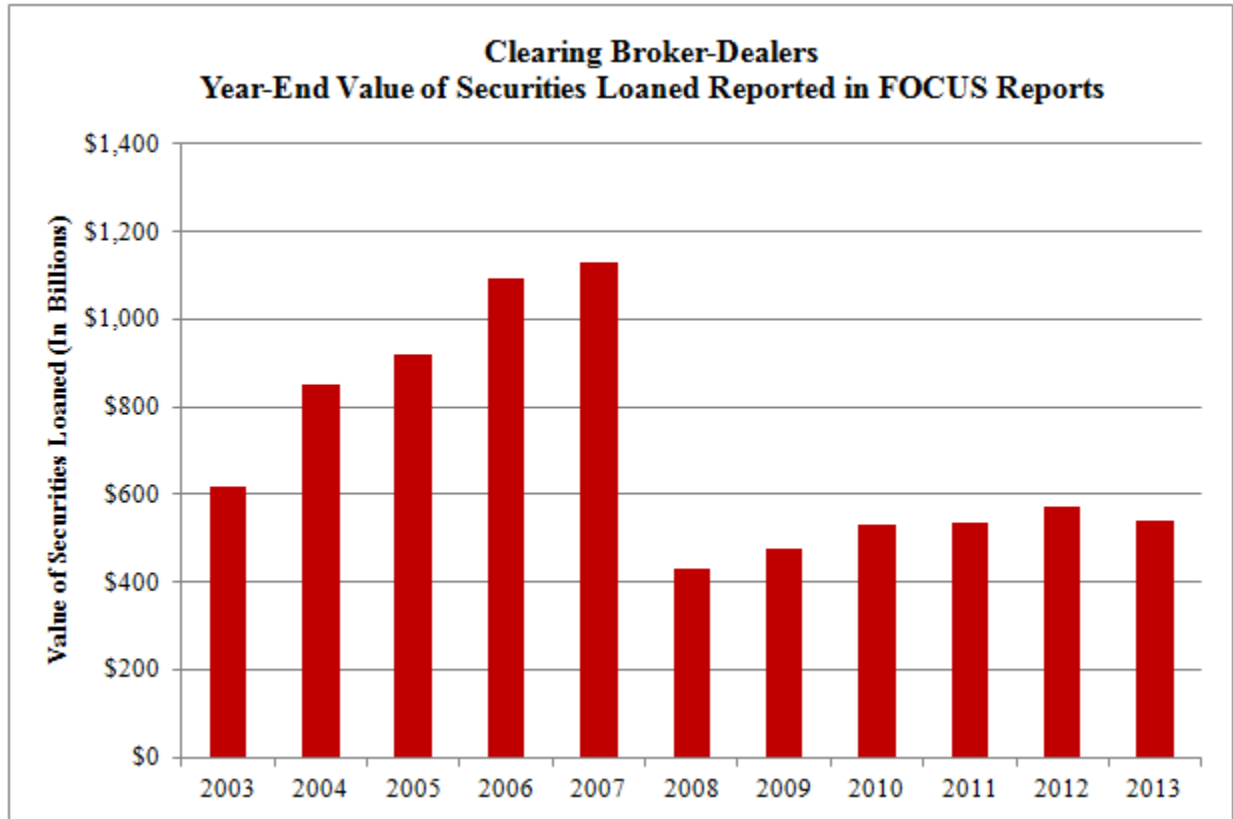
FOCUS Reports Agree with Trends in the FSOC Report

FOCUS Reports are filed by U.S. broker-dealers and clearing firms with FINRA. The reports constitute “the basic financial and operational report required of those brokers or dealers subject to any minimum net capital requirement set forth in Rule 15c3-1.”⁷⁵

Chart 6 shows the value of securities loaned from the clearing broker-dealers combined FINRA FOCUS Reports for year-end 2003 through 2013 (the end of the available FOCUS data). The dollar value appears close between the FOCUS Reports and the FSOC report for securities loaned, but FINRA does not break down by type of security instrument like FSOC does.

⁷⁵ SEC Form X-17A-5 Part II General Instructions https://www.sec.gov/about/forms/formx-17a-5_22.pdf

Chart 6 – Value of Securities Loaned from Clearing Firms’ FOCUS Reports



Like FSOC, the FINRA FOCUS Reports show a similar flat-lining trend of securities loaned since 2008. The NSCC stated in October 2013 there was a **95% decrease** in average daily value loaned from 2007 through its Stock Borrow Program. At the same time, the NSCC stated that usage of the Stock Borrow Program had continued to decline following October 2013. Apparently, the DTCC believes this change is permanent and substantial enough to discontinue its Stock Borrow Program, which had been operating for over 30 years.⁷⁶ This is further evidence of a major shift in the securities lending business, suggesting a large change in operational risk while raising significant red flags regarding compliance with rules, regulations and laws regarding short selling of securities in the U.S markets.

Since March 2009, securities lending has not kept pace with short selling or the amount of synthetic positions that appear to have been created and there has been **no significant quantity of fails at NSCC despite the lack of lending, including through its’ own system.**

The difference in securities lending value versus the level of short selling indicates a diminishing profit lost by owners of real securities (including pension and mutual funds) that are not able to obtain value from lending securities.

⁷⁶ Self-Regulatory Organizations; National Securities Clearing Corporation; Notice of Filing of Proposed Rule Change to Discontinue its Stock Borrow Program, SEC Release No. 34-71156, December 20, 2013 <http://www.sec.gov/rules/sro/nsc/2013/34-71156.pdf>

This combination of metrics suggests large quantities of shares that were/are being sold short are not backed by assets (long/loaned), i.e. undisclosed operational risks and liabilities exist in the financial system above what is reported to regulators and investors.

These are significant red flags, again suggesting there has become substantial over-leveraging in the U.S. markets that has grown at an unprecedented pace since the last financial crisis from excessive/abusive short selling without compliance with federal laws regarding lending/borrowing of securities and leverage limits.

Equity Securities Loaned Have Declined

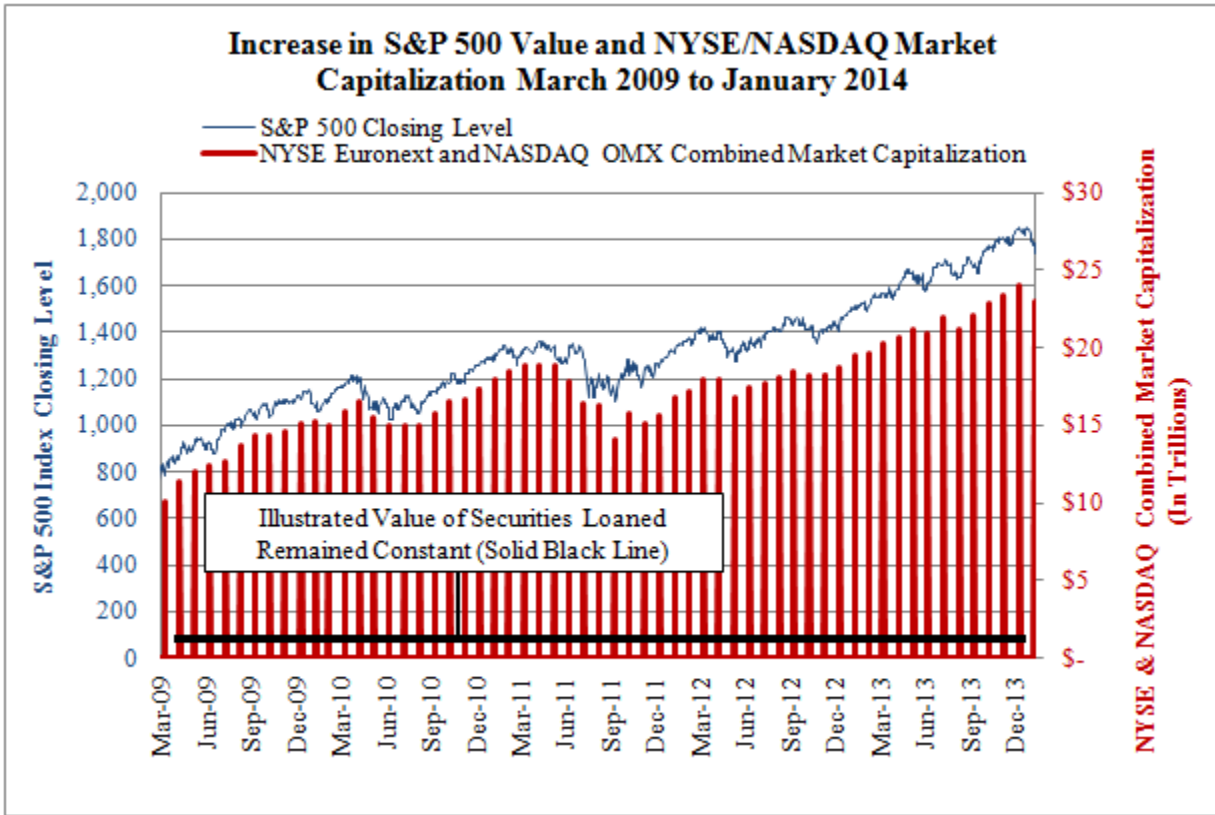
The value of equity securities lending has remained flat with no significant changes to support the large amount of short selling reported on U.S. exchanges. The FOCUS Reports from U.S. broker-dealers and clearing firms support the data in the FSOC report that the value trend of securities lending has not increased to match the continuously high levels of reported short sales and the increasing prices of securities since the financial crisis. This is very important.

This means that the actual **number of shares** in **securities lending transactions** have **declined significantly**. As the market values increased, which has occurred since March 2009, so did the value of short positions (the value of NYSE and NASDAQ listed securities and the S&P 500 Index increased by approximately 125%⁷⁷). However, according to both FSOC and the FOCUS reports, the value of shares loaned remained relatively constant, indicating a **considerable decrease in the number of shares on loan**.

Chart 7 illustrates the increase in value of the NYSE & NASDAQ listed securities and the S&P 500 Index from March 2009 to January 2014. The solid black line in the chart represents the relatively consistent value of equity securities on loan.

⁷⁷ World Federation of Exchanges Domestic Market Capitalization Statistics <http://www.world-exchanges.org/statistics/monthly-reports>

Chart 7 – Increase in S&P 500 and NYSE/NASDAQ Market Capitalization



The charts from the FSOC report show the value of securities lent has remained constant at about \$900 billion from 2009 through 2014 (these are approximate numbers from a visual review of the FSOC charts due to the unavailability of underlying data). Equity securities made up approximately 35% of the value of securities lent or \$315 billion in March 2009 versus 40% or \$360 billion in January 2014; a mere \$45 billion of net new lending of U.S. stocks for the entire period.

As the market value of securities increased (about 125% since March 2009), in order to keep pace with the shares already on loan; the value of equity securities lent in January 2014 should have been approximately \$708 billion. This would be the value to maintain the status quo of the number of shares lent in March 2009. ***This does not take into consideration*** new shares required to be loaned/borrowed for legal settlement of net additional short sales during this 5-year period.

There is a gap of **\$349 billion in 2014 value** of equities lent that would be necessary to **just maintain the securities lending values status quo since March 2009**. This indicates there was no new net short selling and the number of securities on loan has actually declined substantially, i.e. an apparent net covering of short positions since 2009. This is in direct contradiction to exchange/SRO short sale data, which shows ongoing excessive/abusive short selling in a variety of equity securities and ETFs.

ETF Share Lending – ‘Expectation’

According to the FSOC report, ETFs have consistently accounted for between 4% and 5% of the total static value of securities lending despite enormous amounts of short selling in significant ETFs, without substantial share creation to cover the short sales.

The value of ETF securities lent during the reported period has been between \$40 and \$50 billion for *all ETFs despite trillions of dollars in short sales over the period.*

J.P. Morgan explained in July 2013 that ETF share-lending is operating under an “expectation that Authorized Participants will step in by creating more shares,” in the future for the short sellers to borrow and deliver to the purchaser.⁷⁸ However, this ‘expectation’ that securities could be created in the future, is not an affirmative determination and does not fulfill the current U.S. locate requirements mandated by short sale laws, rules and regulations. **An ‘expectation’ does not fulfill contract law and cannot complete legal settlement of shares. An ‘expectation’ is also not a substitution for a locate, affirmative determination or delivery of loaned securities for short sales.**

Since J.P. Morgan made this statement, there have been over 285 new ETPs issued and trillions of dollars of short sales have been executed for ETFs.⁷⁹

Moreover, the number of U.S. ETFs grew from **719 to 1,406** from the financial crisis market bottom in March 2009 to January 2014.⁸⁰ Given the large amount of short selling in ETFs, this increase in the number of ETF products alone should have created more share lending, but it did not.

For ETFs there appears to be significant risks from stagnant amounts of shares on loan since the financial crisis, with continuing excessive short selling across a much broader number of products. Again, these risks could reverberate throughout the financial system. This concern is supported by the FSOC report exhibit 5.2.11 above, showing ETF loan value trends changed little at a time when index market values were increasing along with doubling the number of ETF products and with ETF short sales exceeding one of every two shares sold.

The Largest ETF – SPY

As discussed above, the SPY is the largest security traded by value globally. Short interest for the SPY (one security) was about equal to the value of all ETF shares on loan from the lending data provided in the FSOC report for January 31, 2014.

How can the value of the SPY’s short interest be essentially equal to the value of all ETF shares loaned? The potentially dangerous industry ‘expectation’ of creating ETF shares is apparently being used by ETF operators and Authorized Participants to circumvent borrowing securities for short sales well beyond settlement dates. This is a pattern and practice of behavior

⁷⁸ J.P. Morgan, Global Asset Allocations, Flows & Liquidity: Are ETFs Dangerous? July 5, 2013

⁷⁹ Source: ETF.com as of December 31, 2014

⁸⁰ Sources: Investment Company Institute and ETF.com as of January 2014.

since the financial crisis that ultimately is not logically sustainable. The end result of these trading and settlement activities may be very negative for the U.S. financial system, taxpayers and the economy.

Section 6 – Systemically Risky Leverage from Arranged Type Financing and Offshore Re-Hypothecation - Where Some Positions Reside

One of the reasons the NSCC data is not accounting for an adequate number of fails of U.S. securities is because some large short positions are book-entered with special financing conditions (sometimes referenced as enhanced lending, enhanced or arranged financing, with re-hypothecation as a transactional component). Most special financings are book-entered in offshore jurisdictions and accounted for outside of the U.S. national clearance and settlement system (DTCC/NSCC). The risks from re-hypothecation and similarly named practices have been building since the last financial crisis. These types of transactions appear to have been misunderstood by regulators, perhaps because they were misled regarding the nature and magnitude of the activity.

The re-hypothecation process is well understood by sophisticated U.S. clearing firms and was developed to evade U.S. laws, rules and regulations. Arranged and enhanced financing are typically executed through divisions of the same clearing firm and entail loaning/borrowing synthetic assets/shares to/from another affiliated branch. These services are only provided to very special clearing firm clients such as large hedge funds or the clearing firm's own trading accounts.

Re-hypothecation and arranged/enhanced financing are ***common practices*** for some clearing firms with the specific purpose of transferring positions out of the U.S. records into foreign jurisdictional books/records where they are not under U.S. regulatory scrutiny. **The transactions occur in the U.S. and in essence are maintained by the U.S. record keeping divisions of the clearing firms.** This is the basic element of these transactions that could be corrected in the U.S. through existing laws, rules and regulations to help mitigate the systemic risk from these types of transactions.

The clearing firm's United Kingdom books are commonly used as a foreign jurisdictional location to re-hypothecate assets. This was discussed in a publication by Practical Law on Davis Polk & Wardwell's website.⁸¹

“In the US, the extent to which a prime broker can rehypothecate a client's assets is limited by the Securities Exchange Act of 1934, as amended (Securities Exchange Act). Prime brokers can rehypothecate assets to the value of 140% of a client's liability to a prime broker. Further, prime brokers cannot use those assets to raise more money than

⁸¹ Copyright © 2010 Practical Law Publishing Limited and Practical Law Company, Inc. All Rights Reserved. Use of PLC websites and services is subject to the Terms of Use (<http://us.practicallaw.com/2-383-6690>) and Privacy Policy (<http://us.practicallaw.com/8-383-6692>). For further information visit [practicallaw.com](http://www.davispolk.com/files/Publication/030265d8-47e5-4de9-8a35-656619e6e4aa/Presentation/PublicationAttachment/6499d894-1466-4470-866f-6a4af93f322b/njordan.rcolby.practicallaw.article.apr10.pdf) or call (646) 562-3400. *The Traditional Prime Brokerage Model* <http://www.davispolk.com/files/Publication/030265d8-47e5-4de9-8a35-656619e6e4aa/Presentation/PublicationAttachment/6499d894-1466-4470-866f-6a4af93f322b/njordan.rcolby.practicallaw.article.apr10.pdf>

they lend to their customers. **This is different from the UK where there are no statutory limits on the value of assets that the prime broker can rehypothecate or how much money it can raise from using those assets.** Because **rehypothecation is so profitable for prime brokers, some prime brokerage agreements allow for a US client's assets to be transferred to the prime broker's UK subsidiary to circumvent these US rehypothecation limits.** “Under the typical prime brokerage agreement the prime broker can use all of the client's assets, even if the value of these is far in excess of the actual obligations owed by the client,” says Leonard Ng.⁸² Under UK law, when **the prime broker exercises its right to rehypothecate an asset,** the **title to that asset transfers to the prime broker.** **For these reasons, prime brokerage agreements are often structured to permit client-asset transfer to the prime brokerage's UK affiliate.”**

The outcome of re-hypothecation and related securities transactions is to create synthetic shares to sell/loan or use for financing from thin air, while obtaining control of the purchaser's monies.

Arranged financing does not create any new liquidity; it removes liquidity that the institutional buyer brought into the marketplace. The buy side institutional benefit to the underlying securities purchased is lost to the short sale through the arranged finance scheme (no underlying securities are actually purchased).

The largest amount of money newly invested into securities is from pension and mutual funds. Pension and mutual funds can actually be **financing short selling against their positions best interest.** According to short sellers interviewed by the SEC:⁸³

“In an arranged financing transaction, a broker-dealer executes a short sale on behalf of a customer and arranges for a stock loan from an affiliate of the broker-dealer. The customer pays a fee for the securities loan and provides collateral to the broker-dealer affiliate, in the form of cash (**using the proceeds from the short sale**) or stock, in an amount generally higher than the market value of the securities loaned.”

⁸² Leonard Ng, a partner at Sidley Austin LLP.

⁸³ SEC Division of Economic and Risk Analysis Report, *Short Sale Position and Transaction Reporting*, Footnote 196, June 5, 2014

These are very insidious and dangerous transactions that have been referred to as “self-funding” of prime brokers/clearing firms.⁸⁴ In fact, they can for the most part self-fund the short sales against long positions that provided the cash. The “self-funding” allows short sellers/clearing firms to leverage offshore, considerably more than they have the ability to leverage under U.S. law and the collateral is provided with cash from the purchaser of the short sale.

On December 19, 2013, FINRA fined Deutsche Bank’s U.S. affiliate for “serious financial and operational deficiencies primarily related to its enhanced lending program”.⁸⁵ This Deutsche Bank program is a type of enhanced financing using the Deutsche Bank U.S. affiliate’s (“DBSI”) proprietary and hedge fund clients’ accounts to create synthetic positions. DBSI had arranged an intercompany borrow/loan of stock with Deutsche Bank AG London (“DBL”) where DBSI showed a borrow that ostensibly was a synthetic accounting offset of short positions in U.S. securities.

FINRA’s announcement of the action summarized:

“Under DBSI's enhanced lending program, which involves mostly hedge fund customers, the firm arranges for its London affiliate, Deutsche Bank AG London (DBL), to lend cash and securities to DBSI's customers. FINRA's 2009 examination of the firm uncovered a number of serious problems in connection with this program. For example, the firm's books reflected that it owed \$9.4 billion to its affiliate, but *neither the firm nor FINRA examiners could readily determine which portions of that debt were attributable to the customers' enhanced lending activity, and which were attributable to DBL's own proprietary trading*. The lack of transparency in DBSI's books and records meant the firm was unable to readily monitor the accounts originating out of the enhanced lending business.”

FINRA found by April 2010, Deutsche Bank had a \$31 billion intercompany synthetic loan that it classified as receivable assets, stating:

“On April 7, 2010, DBSI reclassified \$31 billion in what the Firm had accounted for as intercompany receivables as stock loans and required DBL to deliver collateral at 102% of the principal value of such stock loans.”

⁸⁴ “Many prime brokerage businesses are self-funding because of their ability to **rehypothecate** (or re-pledge) the assets that clients post as margin or collateral for trades entered into under prime brokerage arrangements.” Copyright © 2010 Practical Law Publishing Limited and Practical Law Company, Inc. All Rights Reserved. Use of PLC websites and services is subject to the Terms of Use (<http://us.practicallaw.com/2-383-6690>) and Privacy Policy (<http://us.practicallaw.com/8-383-6692>). For further information visit [practicallaw.com](http://www.davispolk.com/files/Publication/030265d8-47e5-4de9-8a35-656619e6e4aa/Presentation/PublicationAttachment/6499d894-1466-4470-866f-6a4af93f322b/njordan.rcolby.practicallaw.article.apr10.pdf) or call (646) 562-3400. *The Traditional Prime Brokerage Model* <http://www.davispolk.com/files/Publication/030265d8-47e5-4de9-8a35-656619e6e4aa/Presentation/PublicationAttachment/6499d894-1466-4470-866f-6a4af93f322b/njordan.rcolby.practicallaw.article.apr10.pdf>

⁸⁵ *FINRA Fines Deutsche Bank Securities, Inc. \$6.5 Million for Serious Financial and Operational Deficiencies*, December 19, 2013 <http://www.finra.org/Newsroom/NewsReleases/2013/P411637>

When Deutsche Bank reclassified the receivables as a loan, it triggered a Federal Reserve regulatory margin call of \$2.7 billion and a house margin call of \$6.7 billion. These numbers alone suggest that true net capital may be highly overvalued at some major financial firms.

FINRA stated:

“DBSI improperly computed its payable balance, thus reducing the firm's reported liabilities and inaccurately overstating the firm's net capital.”

“Separately, in March 2010, the firm incorrectly computed its customer reserve formula. As a result, the firm's customer reserve fund was deficient by **\$700 million to \$1.6 billion** during March 2010.”

This appears to be another breakdown in segregation of customer funds on a significant scale that could produce serious operational risks for a clearing firm (e.g. MF Global).

This is an example of the potential systemic risk that exists from improper reporting, inadequate collateral and synthetic positions on the books of the clearing firms.

It is the clearing firms that control these special financing operational processes. Ultimately, it is the clearing firms who are short in delivery. These positions can remain underfunded/open for extended periods of time, sometimes years. Under stressed market conditions, even short sellers suffer when clearing firms have created synthetic positions/loans they cannot deliver.⁸⁶

In essence, the large operational risk from these transactions is being concealed because the fails that should occur at NSCC are recorded in the clearing firms' offshore books (the non-NSCC reporting affiliates), altering the very important public metrics such as the number of tradable shares in the marketplace, the amount of reported short interest and fails to deliver reported through NSCC.

⁸⁶ In 2012, the New York Times published the deposition of Marc Cohodes of Copper River Partners formerly Rocker Partners (a client of Goldman Sachs and one of the largest and most sophisticated short sellers in the U.S.). See David Rocker's testimony to U.S. House Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises 2003). Cohodes testified that during September 2008 (at the time when previously established short positions were increasing in profitability), “Goldman was in the process of putting us out of business...” by “forcing us to close positions in a reckless fashion.” Cohodes stated, “we knew that we were paying large sums of money for borrowed stock, so we knew we didn't have naked positions”. In order for Goldman to reduce a house margin call, Cohodes assumed that Goldman had naked short positions it needed to close out which forced “Goldman to act so aggressively and heavy-handed over such a short period of time in a stock market that was basically in free-fall and not give us rationale.” New York Times article, *Anger at Goldman Still Simmers*, Gretchen Morgenson, March 25, 2012 <http://www.nytimes.com/2012/03/26/business/goldman-sachs-denies-claims-it-led-to-copper-rivers-demise.html>

Section 7 – Systemic Risk from High Ownership and Derivative Trading Concentration on S&P 500 Companies

Ownership of shares outstanding in the U.S. markets is at high levels. Many companies systemically important to the U.S. economy are in an overbought condition. In a true supply and demand market, these ownership characteristics should cause trading to be tightly constrained. In many cases, this is not what is found in the data. In fact, trading and short selling appear to be unconstrained despite the excessive ownership of many U.S. companies.

Concentrating on the S&P 500 companies in an examination of year-end 2013, there were at least 252 stocks (more than 50%) that had reported institutional ownership **greater than 80%**. For 20 of these stocks, the reported institutional ownership alone exceeded all shares outstanding.

This level of institutional ownership does not include insider ownership, smaller investors or large non-reporting shareholders.

Consider, some companies have institutional ownership greater than shares outstanding plus reported short interest. For example, Alliance Data Systems shares outstanding and its short interest on December 31, 2013 totaled 54 million shares. Reporting institutions claimed ownership of nearly 63 million shares or 8.4 million more than the shares outstanding plus short interest. Simply put, shares were owned that were not issued nor reported as short positions (with shares borrowed).

If the national clearance and settlement system was functioning properly, these positions not backed by shares should show as NSCC fails. There is a flaw in Regulation SHO that **excludes transactions not sent to NSCC, i.e. ex-cleared⁸⁷ and/or internalized clearing firm positions, including offshore re-hypothecation through affiliates.**

Pension Funds and Other Institutional Investors/Accounts

The public pension funds are heavily weighted toward ownership of S&P 500 companies, which is an expected result. Of the S&P 500 securities, around 50 securities or 10% represent approximately 50% of all of the value weight of the S&P 500 companies.⁸⁸ The risks from the ownership concentration in blue chip companies would be minimized if ETFs and other derivatives were not interconnected to the same small group of underlying securities.

⁸⁷ See Division of Market Regulation: Responses to Frequently Asked Questions Concerning Regulation SHO, Question 5.3.

⁸⁸ As of October 17, 2012 and December 9, 2013.

Table 37 shows a small sample of public pension fund ownerships examined as of March 31, 2013 and the values invested in S&P 500 companies.⁸⁹

Table 37 – Sample Public Pension Fund Ownership as of March 31, 2013⁹⁰

Reporting Public Pension Plan	Number of Securities Held	Total Value Reported on 13F Filings	Number of S&P 500 Companies Held	Value Invested in S&P 500 Companies	Percent of Total Value Invested in S&P 500 Companies
Thrift Savings Plan, C Fund: Common Stock Index Investment Fund (a U.S. government pension fund)	500	\$88,900,000,000	500	\$88,900,000,000	100%
New York State Teachers Retirement System	1,498	\$36,153,809,000	499	\$31,860,442,000	88%
State Treasurer State of Michigan	940	\$11,290,712,000	499	\$9,683,510,000	86%
Oregon Public Employees Retirement Fund	963	\$2,272,925,000	500	\$1,942,231,000	85%
State Board of Administration of Florida Retirement System	2,501	\$29,947,710,000	495	\$25,109,210,000	84%
New York State Common Retirement Fund	1,860	\$56,186,021,000	500	\$46,817,086,000	83%
California State Teachers Retirement System	2,948	\$29,800,125,000	492	\$23,961,710,000	80%
Teacher Retirement System of Texas	2,485	\$11,991,227,000	498	\$9,634,491,000	80%
Virginia Retirement Systems et al	828	\$5,266,951,000	329	\$4,229,399,000	80%
State of New Jersey Common Pension Fund A	826	\$19,733,909,000	353	\$15,805,740,000	80%
Public Employees Retirement Association of Colorado	2,001	\$10,570,511,000	500	\$8,211,911,000	78%
California Public Employees Retirement System	4,028	\$49,628,937,000	497	\$38,155,202,000	77%
State Teachers Retirement System of Ohio	1,941	\$22,751,547,000	443	\$17,398,071,000	76%
Arizona State Retirement System	1,501	\$7,115,048,592	463	\$5,416,149,909	76%
State of Wisconsin Investment Board	1,297	\$24,746,656,000	495	\$18,535,401,000	75%
Public Employees Retirement System of Ohio	1,418	\$17,837,823,810	481	\$12,672,891,810	71%
Employees Retirement System of Texas	1,104	\$7,416,113,000	486	\$5,174,977,000	70%
Total		\$431,610,025,402		\$363,508,422,719	84%

Table 38 shows the portfolio value of a sample of asset managers, insurance companies, mutual funds and private employee pensions of large companies (some are members of the S&P 500) invested in S&P 500 companies as of March 31, 2013.

The largest ETF operator BlackRock has many investment advisory funds across the globe invested in S&P 500 companies. Included in the table is the combined reported ownership of the three largest BlackRock investment advisory funds reported in 13F filings. These three

⁸⁹ The Thrift Savings Plan, C Fund is a U.S. government pension fund that invests solely in S&P 500 Index securities. The amount of short selling in the S&P 500 securities and related ETFs, coupled with the settlement exposure from other options, futures and derivative products could have an effect on this government pension fund's long-term value due to the pension fund's investment rules, which do not permit sales of S&P 500 securities. Fifty securities accounted for half of the nearly \$90 billion in the pension fund. The C Fund's asset manager is BlackRock. Data for the Thrift Savings Plan, C Fund is as of December 31, 2012 because only year-end data is available. The fund's objective is to replicate the performance of the S&P 500 Index by weight.

⁹⁰ The dollar values in Tables 37 through 39 do not include option contracts.

BlackRock funds collectively reported \$846.6 billion worth of securities, with \$592.5 billion or 70% held in S&P 500 companies.

Table 38 – Sample Institutional Ownership as of March 31, 2013

Reporting Entity	Number of Securities Held	Total Value Reported on 13F Filings	Number of S&P 500 Companies Held	Value Invested in S&P 500 Cos	Percent of Total Value Held Invested in S&P 500 Companies	Type of Institution
Vanguard 500 Index Fund	503	\$132,911,312,274	498	\$131,659,260,995	99%	Mutual Fund
Vanguard Total Stock Market Index Fund	3,237	\$240,854,260,756	500	\$192,509,231,477	80%	Mutual Fund
American Funds - The Growth Fund of America	274	\$100,853,096,934	145	\$72,573,024,867	72%	Mutual Fund
American Funds - The Income Fund of America	168	\$52,019,673,518	74	\$34,082,760,325	66%	Mutual Fund
Berkshire Hathaway	41	\$85,001,344,000	30	\$82,007,883,000	96%	Asset Manager
Capital Research Global Investors	438	\$234,721,117,000	199	\$190,910,151,000	81%	Asset Manager
Capital World Investors	484	\$300,483,148,000	215	\$240,631,628,000	80%	Asset Manager
Vanguard Group	3,730	\$912,868,823,000	500	\$708,338,186,000	78%	Asset Manager
T Rowe Price Associates	2,340	\$371,666,848,000	500	\$273,062,868,000	73%	Asset Manager
BlackRock ⁹¹	4,382	\$846,645,148,000	496	\$592,477,754,000	70%	Asset Manager
FMR LLC	3,335	\$605,102,786,000	499	\$362,014,414,000	60%	Asset Manager
State Farm Mutual Automobile Insurance Co	111	\$54,806,273,000	76	\$51,282,533,000	94%	Insurance Company
Prudential Financial Inc	2,970	\$38,739,529,000	499	\$30,643,513,000	79%	Insurance Company
American International Group Inc	4,637	\$15,532,779,468	499	\$9,616,966,104	62%	Insurance Company
ExxonMobil Investment Management Inc	501	\$4,193,227,000	498	\$4,178,842,000	100%	Private Pension
General Electric Co	214	\$19,002,060,000	146	\$16,830,954,000	89%	Private Pension
IBM Retirement Fund	997	\$7,968,653,000	495	\$6,974,765,000	88%	Private Pension
Honeywell International Inc	128	\$3,577,715,000	113	\$2,936,189,000	82%	Private Pension
General Motors Investment Management Corp	814	\$1,063,807,607	281	\$749,503,896	70%	Private Pension
United States Steel & Carnegie Pension Fd	55	\$5,442,594,000	41	\$3,794,988,000	70%	Private Pension
Total		\$4,033,454,195,557		\$3,007,275,415,664	75%	

⁹¹ Combined 13F Holdings for BlackRock Institutional Trust Company, N.A., BlackRock Fund Advisors and BlackRock Advisors, LLC.

Custodians (Client Asset Holders) / Service Providers (Asset Managers, Stock Lenders, Financiers, etc.)

The top 4 largest custodians/service providers accounted for 91% of the \$1.7 trillion in total investment value that the top 10 global custodians/service providers were required to report in SEC 13F filings at quarter ending March 2013.⁹² In total, the top 10 custodians reported investment in S&P 500 companies on March 31, 2013 was \$1.3 trillion (i.e. 77% of the total value held by these institutions).

Table 39 contains the top 4 largest custodians/service providers and their value held in S&P 500 companies, \$1.2 trillion. The value of these holdings is very compressed in S&P 500 stocks and further concentrated in just a few securities, shown in the right side of the table.

Table 39 – Sample Custodian/Service Providers S&P 500 Holdings as of March 31, 2013

Reporting Firm	Number of S&P 500 Companies Held by Reporting Firm	Total Value Invested in S&P 500 Cos	Number of S&P 500 Companies Amounting to 50% of S&P 500 Holdings Value	Value Held Amounting to 50% of S&P 500 Holdings Value
State Street Corp	485	\$585,442,874,000	54	\$293,216,210,000
Bank of New York Mellon Corp	499	\$245,415,992,000	55	\$123,092,876,000
J.P. Morgan Chase & Co	499	\$186,088,044,000	51	\$93,563,422,000
Northern Trust Corp	499	\$212,193,951,000	53	\$106,545,529,000
Total		\$1,229,140,861,000		\$616,418,037,000

It is important to know when reviewing the ownership information, that these findings are also representative of the holdings of other custodians/service providers, institutional managers, asset managers, public companies with substantial stock portfolios and private/public pension funds (i.e. a large amount of investment in U.S. companies is concentrated into a small number of securities).

The above discussion of public filings contains more than **\$4.6 trillion** worth of S&P 500 securities owned as of March 31, 2013 (in Tables 37, 38 and 39).

Many other managers/advisors/investors are not large enough to be required to file 13F reports, but collectively own or represent owners of significant amounts of value held in S&P 500 stocks.

⁹² The top 10 custodians as reported by Institutional Investor LLC - a custodian may be a custodial agent for other funds that self-report their holdings on 13F filings (these tables do not include a double counting of reported holdings).

Important Underlying Securities and Related Derivative Products

The SEC's Question 52 asks about the "*significant growth in the number, variety, and market capitalization of ETPs*" and its effect on investors, broker-dealers or other market participants.

The **relatively new interconnection** between top U.S. companies and ***hundreds of derivative products*** (ETPs, options, futures etc.), has caused an unprecedented and apparent unhealthy relationship between traditional investments and systemically risky products that puts the majority of U.S. institutional and retail investors' and potentially taxpayers' money at risk in a stressed or crisis market environment. Without being disclosed, S&P 500 companies and their investors have now been systemically attached to the world of derivatives and the associated risks. This does not appear to be an outcome that investors understand.

Derivative products have grown enormously in the past few years and collectively appear to constitute a threat to the stability of the global financial system. Many of these products have been developed or became heavily traded after the market crisis of 2008 and the first quarter of 2009, but they have not been tested under stressed market conditions.

Most value traded in stocks and derivatives is heavily concentrated around; a) S&P 500 Index securities, b) sectors of S&P 500 Index securities including Dow component stocks, and c) the largest ETF by value traded, the S&P 500 ETF (Symbol: SPY), based on the S&P 500 Index.

Additionally there are now hundreds of ETPs with large cap U.S. equities as components. For example, for just the 30 Dow stocks there are now **between 80 and 100 ETPs**. Other important weighted S&P 500 non-Dow stocks are generally underlying securities in over **80 ETFs**. This is true for the most important S&P 500 companies with numerous side bets additionally available on the same securities, such as the CBOE Volatility Index (VIX), options and futures products.

In a normal supply and demand marketplace that is functioning properly, investment into the Dow 30 companies and other U.S. blue chip stocks would be considered relatively smart and conservative investments. As the data suggests, the concentration of ownership and of derivatives on these same securities is now generating high levels of undisclosed risk for investors, custodians, asset managers, the national clearance and settlement system and the financial system as a whole.

Risks from Concentrated Trading of S&P 500 Companies, ETFs and Derivatives

The data draws a striking possibility that ETFs may be the center-point of today's systemic risk, because of; a) the high levels of abusive short selling in top ETFs and their blue chip underlying securities, b) improper locating/borrowing/lending and settlement of short sales, c) false liquidity and mis-pricing from large amounts of matched/washed type trading, d) the lack of investments in creation units to match trading, e) illiquidity of many ETFs based on top tier blue chip securities, f) a history of little or no buying support in crisis market events, g) trading

interconnections to an increasing variety of derivative products, h) apparent excessive over-leveraging, and i) inadequate collateralization.

While top U.S. blue chip companies appear subject to trading risks from multiple ETFs, options and other derivative products are also using the blue chip securities as underlying “assets”. The top value weighted U.S. stock assets have been short sold on average, for at least the last 4 years, at over 1 of every 2 shares sold on reporting SRO/exchanges.

Large blue chip stocks are not only components in ETPs based on S&P 500 underlying securities, large capitalization companies and dividend funds, but also there are a number of ETPs based on specific sub sections of the S&P 500 stocks such as the Dow components, retail, technology and other sectors that have been sold excessively short (e.g. the XRT ETF based on retail securities has been sold short at an average of 70% for the past 4 years).

Some derivative structured U.S. and foreign ETFs are based on large U.S. ETFs. As examples, the U.S. based Daily S&P 500 Bull 3x ETF (Symbol: SPXL) uses swaps, futures and the SPY as component underlying assets. The Canadian iShares S&P 500 Index ETF CAD-Hedged (Symbol: XSP) derivative ETF holds one security, the U.S. iShares S&P 500 Index ETF (Symbol: IVV), which is based solely on the S&P 500 stocks.

Moreover, there is a number of other derivative products based on the same securities, including index futures, E-Mini futures, single stock futures, index options, equity options, leap options, flex options and swaps. Foreign options on U.S. indexes, ETFs and the underlying securities are not transparent to regulators and could produce additional stress under crisis market conditions.

ETFs based on S&P 500 companies also have a number of linked derivative products using the **ETFs as the underlying component**, like the SPY.

Types of Derivatives on S&P 500 Companies

It is important to note that with futures and options each product has multiple prices and expiration dates on which contracts can be traded. In other words, product types can represent many different contracts. For example, on December 31, 2013, the standard SPY option had 14 expiration dates from January 2014 through December 2016. There were 15-20 price points of trading for both puts and calls.⁹³

ETFs, E-Mini futures and options, can significantly affect the underlying stocks as found by the SEC/CFTC during the May 2010 Flash Crash. Derivatives add additional risk to the financial system that today, surrounds a small group of S&P 500 companies. The large number of products concentrated on a small number of the large value weighted 50 S&P stocks is unprecedented.

There are E-Mini futures contracts based on sectors/securities in the S&P 500 which, according to the SEC/CFTC reports, initiated/intensified the May 2010 Flash Crash and

⁹³ Based on January 2014 expiration, data as of December 31, 2013.

immediately negatively affected the SPY, other ETFs and then the underlying securities in just a ten-minute cascade type market event.

In addition to the S&P 500 E-Mini, there are E-Mini futures on the Dow, the NASDAQ 100 and each of the 9 Select Sectors of the S&P 500 Index.⁹⁴ There are also single stock futures for individual securities that, according to the OneChicago Exchange, “act as a synthetic stock-lending vehicle replacing the process of locating stock when selling short.”⁹⁵

There are ‘options’ contracts on the E-Mini futures and options on indexes.

The ETF SPY has been heavily traded in the traditional options markets. There are also options contracts on many of the other significant U.S. ETFs based on the S&P 500 companies including, the 9 Select Sector SPDRs, other State Street ETFs based in part on the S&P 500 (such as the XRT), BlackRock iShares ETFs and Vanguard ETFs.

In addition there is a large amount of options on the underlying S&P 500 companies themselves, potentially increasing the speed/intensity to obtain or liquidate the same S&P 500 securities in a crisis market. In a negatively affected market, there may not be sufficient securities available or created to meet all long/short and derivative delivery obligations. Various products and investors could be competing against each other for scarce liquidity. The natural likely result of these settlement inefficiencies is a liquidity freeze that could affect the financial system as a whole.

The CBOE, NYSE Amex, NYSE Arca and BOX Options exchanges also offer several different types of options on the same underlying S&P 500 securities and related indexes, including mini, long-term, binary, weekly, quarterly, flex, and jumbo options. In May 2013, the BOX Options Exchange listed a new derivative product based on the SPY, a Jumbo S&P 500 option contract for 1,000 shares of the SPY. Competing exchanges publicized their concerns regarding the Jumbo options.

Boris Ilyevsky, the managing director of the International Securities Exchange stated:⁹⁶

“We believe Jumbo SPY would not create incremental volume and, even worse, could **harm liquidity in SPY.**”

“Larger sized ETF contracts do not address any unmet need in the industry and in fact would serve primarily to further fragment **one of the few healthy centers of liquidity.**”

⁹⁴ The largest NASDAQ listed companies make up the NASDAQ 100 Index; ¾ of the NASDAQ 100 stocks are also components of the S&P 500 (77 out of 100 companies).

⁹⁵ OneChicago, Benefits of SSF’s, http://www.onechicago.com/?page_id=74

⁹⁶ Reuters article, 'Jumbo' SPY options make debut, but liquidity a concern to some, Doris Frankel, May 10, 2013 <http://www.reuters.com/article/2013/05/10/us-jumbo-spy-options-idUSBRE9490YL20130510>

The Chicago Board Options Exchange in a comment letter to the SEC when the BOX Options Exchange first proposed Jumbo options on the SPY stated:⁹⁷

“CBOE believes that the Commission should give consideration to the fact that BOX’s filing would introduce *a third contract on a single security*. CBOE believes that the **potential for market fragmentation increases with each additional and different contract on a single security, *even if that security is highly liquid*** with a well-established trading history.”

As the owner of the SPY and the SRO that lists its shares for trading, the NYSE stated regarding the BOX Jumbo SPY product:⁹⁸

“Importantly, the creation of a second-tier market for internalizing SPY options would also detract from price discovery and discourage aggressive liquidity provision in the regular SPY contract (one of the most successful options products ever created).”

We agree; the more variety and number of derivatives on the same security poses increasing risks for the underlying security. This is precisely why the above derivatives that have expanded dramatically in the last few years may be dangerous products to the center of the capital markets, i.e. in the S&P 500 securities; the very heart of the important U.S. companies, the financial system as a whole and the economy.

Moreover, according to BlackRock, the ETF shares themselves may also be hedged with other derivative positions (such as; futures, swaps, ADRs, other ETFs, closed-end funds, etc.). BlackRock does not discuss specific details about the derivatives executed on the shares issued by the ETF in the secondary market, which is created from the ETF model and operated in general by the Authorized Participants.⁹⁹

This is important because without understanding these above discussed derivative positions also connected to ETFs, it is difficult to quantify the number of shares exposed to risks, the leverage in the marketplace and assess the quality of collateral risk exposure that exists for not only the derivative products, but most importantly, key underlying securities, i.e. U.S. blue chip companies.

If ETF operators, including BlackRock, cannot fully explain how all these products are functioning together, then how can they properly disclose the risks of ETPs to regulators when considering new ETPs and investors considering portfolio purchases?

⁹⁷ CBOE comment letter to the SEC on File No. SR-BOX-2013-06, February 25, 2013
<https://www.sec.gov/comments/sr-box-2013-06/box201306-1.pdf>

⁹⁸ NYSE Euronext comment letter to the SEC on File No. SR-BOX-2013-06, February 25, 2013
<http://www.sec.gov/comments/sr-box-2013-06/box201306-2.pdf>

⁹⁹ BlackRock Letter to the SEC Re: Exchange-Traded Products, Release No. 34-75165; File No. S7-11-15, August 11, 2015 <http://www.sec.gov/comments/s7-11-15/s71115-10.pdf> “We understand most professional traders frequently choose to hedge trades in ETF shares through offsetting positions, rather than take unhedged risk.”

In its comment letter to the SEC regarding ETPs, BlackRock stated:

“Exchange employees responsible for rule filings frequently have *less expertise* in ETP products, or in the *underlying investments* of an ETP, than ETP issuers.”

BlackRock’s response to the SEC appears to indicate BlackRock does not understand or cannot explain ETPs, their underlying investments and the secondary market. Suggesting the SEC does not understand the products is dramatic. This begs the question of why approval rates have skyrocketed without apparent clear/full disclosure to the SEC by ETP operators about ETPs and how they function in the secondary market?

BlackRock’s comments and what the data shows should raise brilliant red flags of undisclosed informational risks that ETPs are misunderstood and most likely are misrepresented to regulators by ETP operators that may themselves not know how the trading of ETPs in the secondary and lending markets could affect the underlying assets and investors in the marketplace under stressed market conditions.

If BlackRock does not understand or cannot explain to regulators how ETPs and the secondary markets are operating, how can it be expected that investors understand the products and their risks? Without full disclosure and understanding, how can it be determined that these products are in the best interest of the public?

Hedges and Product Loopholes

Another dimension adding systemic risk to the underlying securities and the broader markets is that ‘sham’ hedges can be created for the above products by market participants as a way to sell/create securities that do not legally exist for sale.

These types of sham hedge transactions have been occurring in the options markets for years. Several disciplinary actions have been taken by regulators against options market makers to stop these abusive practices. For example, on January 31, 2012, the SEC filed an administrative proceeding against options market maker Jeffrey Wolfson for violations of Regulation SHO in numerous threshold securities. The SEC alleged Mr. Wolfson used reverse conversions in conjunction with options that created ‘naked’ short positions and ‘sham transactions’ that reset the close-out requirements for failed positions. In email correspondence with his clearing firm, Mr. Wolfson stated, ***“what I sell them is not guaranteed, it never gets delivered, it’s funny paper.”***¹⁰⁰

The fact that this many products exist today (some are more heavily transacted than others), raises substantial red flags that any regulatory actions to close one loophole will simply result in the migration by some professional market participants to another product in order to accomplish the same goals, i.e. to aggressively and abusively short sell blue chip securities and related ETFs.

¹⁰⁰ SEC Administrative Proceeding 3-14726, In the Matter of Jeffrey A. Wolfson, Robert A. Wolfson, Golden Anchor Trading II, LLC, January 31, 2012 <http://www.sec.gov/litigation/admin/2012/34-66283.pdf>

Derivative Products Affecting S&P 500 Securities Prices

Originally, derivatives such as ETFs, options, futures and index-tradable financial instruments were designed to replicate/base their value on the underlying securities prices.

In Question 17, the SEC asked: “*To what extent, if any, does trading activity in ETP Securities affect price discovery, price correlation, liquidity, or volatility in the ETP’s underlying or reference assets?*”

Though industry participants do not agree precisely which product is leading prices; it does not appear that the founding principle of derivatives ‘only reflecting’ pricing of underlying assets is still true, but rather they are ‘affecting the prices’ of the underlying securities as suggested by the CME Group and the largest ETF operator, BlackRock.

In October 2010, the CME Group released a statement on the May 2010 Flash Crash, stating:¹⁰¹

“Academic and empirical evidence has **firmly established** that stock index futures markets are **significantly more liquid than alternatives, including broad-based index ETF markets**. As a result, stock index futures markets typically function as the **leading price indicator** and **fundamental** broad-based **equity market movements are generally first evidenced in CME’s E-mini S&P 500 futures markets**.”

In a June 2013 letter to investors, according to BlackRock (operator of iShares ETFs), ETFs were/are leading the market:¹⁰²

“The last few weeks have highlighted an underlying trend that merits **more public appreciation**. **More and more ETFs are becoming the true market**.” BlackRock reinforces this theory by stating: “In a rapidly moving market, the reported prices of individual underlying assets may become stale. The ETF price can become **the true price for that market**, and **the underlying assets may eventually catch up** with any gap between the two.”

These conflicting statements from industry members that their products are leading the market ahead of the underlying stocks, illustrates the interconnectivity of all the products and that they do have a direct effect on the underlying securities pricing. The statements show the nature of derivative products as originally designed has changed and they now can **pose risks to the underlying securities**.

¹⁰¹ CME Group press release, *CME Group Statement on the Joint CFTC/SEC Report Regarding the Events of May 6, October 1, 2010* <http://investor.cmegroup.com/investor-relations/releasedetail.cfm?ReleaseID=513388>

¹⁰² BlackRock Open Letter to Our Investors, June 29, 2013

The Combined Concentration of Risk

The data indicates ETFs have morphed and are very inter-connected to derivatives and synthetic-based products. This transactional interconnectivity is undisclosed to U.S. investors in both ETFs and their underlying securities.

This large number of **products** concentrated on a small number of value-weighted S&P 500 stocks (50 companies) is unprecedented. The more interconnected derivative products there are to the same securities, the more concentrated systemic risk becomes around a smaller and smaller group of underlying assets that are key components of the U.S. and global economy. These key U.S. traded companies, which include systemically important financial firms, can alter the valuation of stock markets and economies globally.

This growing comingling of systemically risky products with vital U.S. companies has occurred in only a few years. Continuing to allow new/different products to be based on the same assets compresses the risks into so few securities that when liquidity beyond price and execution is required, it simply may not be available.

Many of these products are not operating as approved, can be used abusively and pose serious risks for both the underlying securities and the capital markets.

Section 8 – Operational Risk - Abusive High Frequency Trading

Some firms have been internalizing fails, hiding fail liabilities offshore through enhanced financing schemes and compressing/pre-netting/summarizing **millions of trades into a few before submission to the NSCC**.¹⁰³ Compression, and like practices, can be used to hide a multitude of illegal high frequency trading (“HFT”) strategies and conceal settlement failures from regulators, which masks the operational risks to the national clearance and settlement system from high frequency trading.

Some in the industry continue to promote HFT as the equivalent of market making. Clearly, the data shows some high frequency trading is **not** bona fide market making.

There are commentators who are unfortunately creating a misunderstanding of how some high frequency traders operate, narrowing the debate to front running (which they refer to as rigging the market). In fundamental ways, this is the natural job of market makers, i.e. profiting from spreads in the marketplace. In some cases, high frequency trading is not legal, based on federal laws, rules and regulations governing market activity. The *illegal high frequency trading* is where the discussion should be concentrated.

¹⁰³ GETCO commented on a 2006 DTCC proposal for all trades to be sent through NSCC in a real-time uncompressed trade-by-trade reporting format. GETCO, LLC stated: “The amount of compression that is taking place in the marketplace is substantial and may in fact be **substantially underestimated**. We estimate **that millions of trades are compressed into hundreds**.” Letter from GETCO, LLC to the SEC, May 9, 2006. <http://www.sec.gov/comments/sr-nbcc-2006-04/sschuler050906.pdf>

Bona fide market making requires a broker-dealer to stand ready to buy or sell a security. The processes of canceling extreme numbers of orders is not bona fide market making. This HFT activity negatively affects the market in two ways; 1) it distorts the real amount of demand to purchase or sell a security, and 2) the excess amount of the securities being offered to buy or sell influences pricing, i.e. the result, whether inadvertent or advertent, is the manipulation of the security from distorted prices and fictitious supply/demand advertised in the marketplace.

Operational risk for money managers, investment funds and others in the industry rises substantially when liquidity is removed from the market (1987 Black Monday and May 6, 2010 Flash Crash). False liquidity from excessive high frequency trading order placement/cancellations can magnify these risks in stressed market conditions.

The data discussed below seems totally unrealistic, however it is the data the SEC receives via its' MIDAS System. While the MIDAS data is capturing a limited amount of the consolidated tape volume, it is illustrative in this case to show the end result of this non-bona fide market making activity undertaken by some high frequency traders.

High Frequency Trading – Order Canceling is Being Used as a Trading Strategy

An order is an expression of interest at a specific price and volume which drives price discovery and demand. Here, we have a distortion from a truly phenomenal level of cancellations that clearly impact price discovery and the appearance of actual interest.

A cancel is not designed to eliminate the expression of interest for trillions of dollars worth of securities, yes that's trillions; it is to deal with operational issues (i.e. cancel a mistaken order due to human error or changing orders to adjust to market conditions). When a HFT system is cancelling trades on a large scale, typically it indicates these cancels are programmed into the computer strategy with *intent* to order and cancel, referred to by various names including 'spoofing' (i.e. fictitious liquidity designed to create the appearance of market liquidity while influencing price direction and inducing others to purchase or sell securities).

Gregory Scopino, Special Counsel in the CFTC's Division of Swap Dealer & Intermediary Oversight, authored a legal article, stating:¹⁰⁴

“The better approach is not to view high-speed pinging as a form of front running or insider trading, but as analogous to ***disruptive, manipulative, or deceptive trading practices***, such as banging the close (submitting a high number of trades in the closing period to influence the price of a contract), spoofing (submitting an order for a trade with the intent to immediately cancel it), or wash trading (self-dealing, or taking both sides of a trade), all of which are illegal.”

¹⁰⁴ *The (Questionable) Legality of High-Speed “Pinging” and “Front Running” in the Futures Markets*, Gregory Scopino, Connecticut Law Review February 2015, Volume 47 <http://connecticutlawreview.org/files/2015/01/7-Scopino.pdf>

The amount of orders placed then cancelled in the data are distorting true price discovery and demand. When this massive amount of orders and cancels are used as a trading strategy, **it is disseminating false information into the marketplace and creating a false sense of supply and demand for securities.**

The SEC's MIDAS Data

In a March 19, 2014, SEC paper 'MIDAS Data Highlight' discussing equity stocks, SEC staff stated, "approximately **95.6% of all events are cancelations** and 4.4% are trades".¹⁰⁵

In a speech on April 15, 2014, Gregg Berman, the Associate Director in the SEC's Office of Analytics and Research discussed the cancel-to-trade ratios in the MIDAS data:¹⁰⁶

"Over the 21-month period from April, 2012, through December, 2013, we compute a relatively steady cancel-to-trade message ratio of about 20-to-1 for corporate stocks. Over that same period the ratio for exchange-traded products is three to four times greater, implying 60-80 cancel messages for each trade message. The results are even more dramatic when normalized by volume. **For every 1000 shares quoted in corporate stocks about 30 shares are traded. For 1000 shares quoted in exchange-traded products that number is just 3 shares.**"

What do These Numbers Equate To?

The SEC's Question 53 asks about observations of the MIDAS data from the Market Structure Data and Analysis website with respect to ETPs.

The data shows for **Exchange Traded Products** (including ETFs) there are orders totaling 333,000 shares placed then cancelled for each 1,000 shares executed.¹⁰⁷ Really? Yes, but this was on average across ETPs. Looking at individual securities provides a deeper and more concerning view of this activity. Below we concentrate on the data in a different way and for specific securities.

The MIDAS data is missing a significant portion of the volume executed in the marketplace. Certain data has been removed from MIDAS for the SEC's study purposes (see MIDAS Market Activity Report Methodology). Here we use the raw data set provided by the SEC's MIDAS system.

Table 40 shows the number of trades and volume ordered versus executed in the MIDAS data from October 2012 through September 2013 (1 year: 250 trading days).

¹⁰⁵Equity Market Speed Relative to Order Placement, MIDAS Data Highlight 2014-02, March 19, 2014 http://www.sec.gov/marketstructure/research/sec_data_highlight_2014-02.pdf

¹⁰⁶What Drives the Complexity and Speed of our Markets?, Gregg E. Berman Associate Director, Office of Analytics and Research, Division of Trading and Markets, U.S. Securities and Exchange Commission, speech at the North American Trading Architecture Summit, April 15, 2014 <http://www.sec.gov/News/Speech/Detail/Speech/1370541505819#.U06tPIXxrAY>

¹⁰⁷Order Book Reporting Methods and Their Impact on Some Market Activity Measures, MIDAS Data Highlight 2014-03, March 19, 2014 http://www.sec.gov/marketstructure/research/sec_data_highlight_2014-03.pdf

Table 40 – MIDAS Data Ordered vs. Executed Number of Trades and Volume from October 2012 through September 2013

	Number of Trades	Volume
Ordered	108,827,068,849	74,057,670,553,365
Executed	3,973,563,619	696,526,440,783
Balance Placed/Cancelled	104,853,505,230	73,361,144,112,582

The amount of trade cancellations in the data is disturbing, but the volume/value of shares cancelled shows an even greater gap between executions and cancels (one must pay close attention to the following data for differences between millions, billions, trillions and quadrillions).

Across all product lines (ETFs and equities, illiquid and liquid) included in just the available MIDAS data from October 2012 through September 2013 examined, orders for **73 trillion** shares were placed then cancelled and just **697 billion** shares were executed, i.e. for each **1,000 shares** sold, there were orders placed/cancelled for **105 thousand shares**.

The MIDAS data shows that there were **2.8 billion shares** executed on average *each day* compared to orders for **293 billion shares** that were cancelled. *Each second* of every trading day during the time period, 121 thousand shares were sold versus 12.7 million shares in canceled orders.

Table 40 shows the totals of the MIDAS data for all securities. When comparing individual securities, the volume and value of cancellations is striking.

ETF Examples of Cancellation Rates

The iShares Core S&P 500 ETF (Symbol: IVV) is used as an example ETF to show the magnitude of order cancellations. As the SEC found, the difference between the **volume** of shares in orders placed/cancelled versus executed trades is more egregious than the **number** of orders cancelled. We also find the **value** of cancellations to be of serious concern.

The rate of orders versus executions in the MIDAS data equates to 1.2 million IVV shares ordered/cancelled for each 1,000 shares executed. The MIDAS data shows during the entire 250-day period examined there were **859 billion** IVV shares ordered with **858 billion** shares cancelled and **719 million** shares executed. **Each day, 3.4 billion shares were cancelled and only 2.9 million were executed, i.e. 99.9% of the orders were cancelled.**

Based on the IVV's **daily closing price** during the period, the trade volume in the MIDAS data equated to approximately **\$113 billion** compared to the order volume/cancellations of **\$127 trillion** (see Table 41).

Each day, there were \$509 billion in IVV shares cancelled or over half a trillion dollars of cancellations daily from just the data reflected in the MIDAS system. When all trading in the marketplace is taken into consideration (the consolidated tape), there may be as much as $\frac{3}{4}$ of a trillion dollars in orders and cancellations each day for just the IVV.

Additionally, the IVV's sister, the SPY, which is based on the same 500 blue chip securities, had **\$1.5 trillion** in shares ordered/cancelled on average each day from just the data reflected in the MIDAS system. In the limited MIDAS data, there were **\$2 trillion in cancelled orders** for these two ETFs based on S&P 500 securities on average **every day**.

This is over \$500 trillion (or 30 times the gross domestic product of the U.S. in 2012) in pre-execution orders cancelled in one year for just these two securities (one half quadrillion dollars). The outcome of this pre-execution activity appears to be providing a tremendously false sense of liquidity.

False liquidity is occurring in ETFs across indexes and sectors. Table 41 shows the total MIDAS cancelled volume versus trade volume and the value of the shares cancelled for the IVV and 3 additional ETFs based on large U.S. indexes: the PowerShares QQQ NASDAQ 100 ETF (Symbol: QQQ), the iShares Russell 2000 ETF (Symbol: IWM) and the SPY.

Table 41 – MIDAS Order vs. Executed Trade Volume and the Value of Shares Cancelled from October 2012 through September 2013 (250 Trading Days)

Symbol	Cancelled Volume	Trade Volume Executed	Percent of Orders Cancelled	Value of Shares Cancelled
IVV	858,497,207,457	718,834,388	99.9%	\$127,187,573,410,441
QQQ	1,409,672,716,165	5,278,218,576	99.6%	\$97,573,803,166,211
IWM	811,330,083,707	5,990,483,969	99.3%	\$72,958,584,943,161
SPY	2,381,597,750,467	19,904,845,846	99.2%	\$365,436,065,814,672
Total	5,461,097,757,796	31,892,382,779		\$663,156,027,334,485

To put this in perspective, the G20 nations represent approximately 85% of the gross world product. The approximate value (\$660 trillion) of orders cancelled in just these 4 securities from the MIDAS data exceeded the combined G20 total 2012 gross domestic product by nearly **12 times**.

With this extent of orders being placed and canceled in the MIDAS data, there is little doubt it is having an influence on the appearance of supply/demand and liquidity. This pre-execution liquidity generated by HFT is skewing the amount of actual market liquidity and may mostly be designed to 'spoofer' the markets with fictitious liquidity.

Based on the daily closing price during the period:

- The IVV trade volume in the MIDAS data equated to approximately **\$113 billion** compared to the order volume/cancellations of **\$127 trillion**.
- The trade volume for the QQQ in the MIDAS data was approximately **\$368 billion** compared to the order volume/cancellations of **\$98 trillion**.

- The trade volume for the IWM was approximately **\$555 billion** compared to the order volume/cancellations at **\$73 trillion** in the MIDAS data.
- The trade volume for the SPY was approximately **\$3 trillion** compared to the order volume/cancellations at **\$365 trillion** in the MIDAS data.¹⁰⁸

S&P 500 Securities

The MIDAS data shows the enormous volume and value of shares cancelled compared to shares executed is not limited to ETFs.

As an example, Table 42 shows the value of total MIDAS data cancelled volume versus trade volume and the value of the shares cancelled for the largest weighted S&P 500 company, Apple, Inc.

Table 42 – Value of MIDAS Order vs. Executed Trade Volume and the Value of Shares Cancelled from October 2012 through September 2013 for Apple, Inc.

Value of Order Volume	Value of Executed Volume	Percent of Orders Cancelled	Value of Shares Cancelled
\$24,361,236,979,714	\$1,303,357,930,706	94.5%	\$23,057,879,049,008

To put this in perspective, the \$23 trillion value of order cancellations in just the MIDAS data for Apple is greater than the 2012 gross domestic product for the U.S., U.K. and Germany combined (\$22.3 trillion).¹⁰⁹

Some of the participants placing and cancelling these orders may be carrying out the manipulation the SEC has asked about in Question 34.

It is apparent that the amount of cancelled orders are disrupting the natural forces of a supply and demand marketplace and altering prices of securities. In ETFs, this activity is accompanied by the ETF operators executing one of the largest advertising campaigns in history.

Section 9 – How Have These Problems Accelerated Since the Financial Crisis?

No SRO Real-Time Enforcement of Market Rules

What the data is showing is the outcome of all of the current laws, rules and regulations that make up the market structure of the financial industry. The rules in place are sufficient to conduct fair and orderly markets, but unfortunately there has been a virtual complete breakdown in the enforcement of securities regulations by the SROs.

¹⁰⁸ As a side note, the total value traded in the marketplace (consolidated tape) was **\$5 trillion** (there is a **\$2 trillion difference** between the published MIDAS data and the consolidated tape trade value for the SPY). There are obviously substantial values attached to the significant amount of trading that is missing in the MIDAS data the SEC is collecting.

¹⁰⁹ Source: The World Bank

The SROs were designed by congress to be the mandated first line of defense against bad actors in the securities markets. SROs/exchanges have now become for-profit competitors that have collectively ignored their duties to protect the marketplace itself and investors. This is not speculation, this is a fact borne out by the evidence found in the cases brought by the SROs against bad actors, which take years to develop into any action against the firms involved and penalties are often next to nothing.

Moreover, real-time enforcement of securities laws is vital to today's market structure and computerized trading, but the data shows this is simply not occurring with any meaningful effort.

CFTC Commissioner Mark Wetjen gave a speech on May 21, 2015 at the Global Derivatives Trading & Risk Management Conference, in Amsterdam and discussed the role of SROs and swap execution facilities (“SEFs”).¹¹⁰ Commissioner Wetjen admitted the CFTC does not currently have the necessary technology or budget to properly regulate the commodities markets alone and does not “have an accurate picture of market participant activity”. He recommended the CFTC could join with the SROs which already have the data to provide surveillance and enforcement and restore public confidence in the markets. Commissioner Wetjen stated:

“As self-regulatory organizations (SROs), the exchanges and SEFs are the first line of monitoring and enforcement of their trading rules and the CFTC’s prohibitions against manipulative and disruptive trading practices, and have available or proprietary software tools to pursue that mission. Accordingly, such a joint effort could be designed to rely on the exchanges providing their technological tools, analytics software, as well as access to the data itself. Indeed, there is precedent for information sharing between the SROs and the government.”

This is a logical approach to help make SROs accountable and to move them toward fulfilling their securities law enforcement mandates passed by congress.

A Breakdown in Transparency, Surveillance and Enforcement

The Federal Reserve and U.S. federal government, including the CFTC and SEC, have various rules and regulations for margin/leverage, lending/borrowing, short selling, hypothecation, securities delivery requirements, fraud and transparent/honest reporting. Disappointingly, enforcing these collective transactional requirements does not appear to be a priority for the first line defenders against abusive market behavior; i.e. the SROs.

¹¹⁰ Remarks of Commissioner Mark P. Wetjen before the Global Derivatives Trading & Risk Management Conference, Amsterdam, The Netherlands, May 21, 2015
<http://www.cftc.gov/PressRoom/SpeechesTestimony/opawetjen-13>

On October 25, 2013, in a speech at the 20th Annual Securities Litigation and Regulatory Enforcement Seminar, SEC Commissioner Luis Aguilar stated:¹¹¹

“As to future enforcement priorities, I expect that the Commission will continue to take a tougher stance against SROs that do not faithfully discharge their primary duties as regulators of the marketplace. SROs play a vital role in our markets, but it has been well-recognized that SROs have had inherent conflicts of interest between their regulatory responsibilities and their business functions – and, over the years, we have seen too many instances of SROs favoring their business interests over their regulatory obligations.

The Commission must be prepared to exercise fully its oversight over SROs. To that end, I have been supportive of the Commission’s renewed focus on holding SROs accountable for failing to fulfill their legal and regulatory obligations – that is particularly true of stock and option exchanges.”

FINRA has had direct authority and regulatory responsibility over virtually all trading on U.S. exchanges from May 2010 through September 30, 2013, executed on the NYSE, NYSE Arca, NYSE Amex, NASDAQ, BATS and Direct Edge markets.¹¹² Over 99% of the reported exchange market volume was under regulatory supervision by agreement with FINRA. The NASDAQ has reassumed some oversight responsibility, but FINRA still has overall authority of virtually all exchanges.

FINRA has examination and oversight authority over all trading by its’ 4,068 brokerage firm members, including transactions executed on alternative trading systems (approximately 80 trading platforms, with around 40 of these venues actively trading). In essence, FINRA has authority over the entirety of the U.S. trading markets and its’ members that are executing security transactions.

In respects, FINRA has more supervision and enforcement authority than the SEC, including direct oversight of the listing markets; NASDAQ and NYSE. FINRA has data and tools to examine data the SEC does not have. The exchanges have argued for decades that SROs are vital/required elements of the securities markets because they are most familiar with trading and are the closest to the trades to observe abusive or manipulative trading activity and are in a unique position to enforce laws, rules and regulations against such behavior.

This makes for a great argument for the protection of investors and the markets, but if SROs do not comply with their congressional mandates of problematic trading identification, investigation and enforcement, then the SEC cannot function as designed with the help of the SROs. The SROs currently provide a false sense of security for stock issuers and investors that there is protection from market manipulators, when in fact bad actors can remain abusing the market for years undetected.

¹¹¹ A Stronger Enforcement Program to Enhance Investor Protection, SEC Commissioner Luis A. Aguilar at the 20th Annual Securities Litigation and Regulatory Enforcement Seminar, Atlanta, Georgia, October 25, 2013 <http://www.sec.gov/News/Speech/Detail/Speech/1370540071677#.UpOR4dJONXE>

¹¹² On September 30, 2013, the SEC approved a rule change by NASDAQ to “Assume Operational Responsibility for Certain Surveillance Activity Currently Performed by FINRA Under the Exchange’s Authority and Supervision”.

This role in the securities markets cannot be understated, especially at this time of monumental change in the trading of securities due to algorithmic and high frequency trading. As Commissioner Aguilar has expressed, the growth of conflicts between SRO enforcement and profits is concerning.

FINRA is mandated to examine, license and monitor its members' trading activities. FINRA states, it is the largest SRO with the necessary resources and tools to oversee and take enforcement action against abusive/manipulative conduct. The record shows a different outcome.

According to the data, sales in some of the most liquid securities have overwhelmingly been derived from short sales under FINRA's oversight. Currently, there are sufficient regulatory constraints on abusive short selling, but they are simply not being enforced.

Though FINRA has surveillance and enforcement agreements with BATS, Direct Edge, NASDAQ and NYSE, the SEC has clearly stated the exchanges are ultimately/primarily liable for surveillance of transactional activity on their exchanges. Each of the exchanges has a dual responsibility with FINRA to supervise trading on their exchanges and enforce federal securities laws and the SRO's rules.

The SROs/exchanges have all of the order and execution data from their own exchanges. Moreover, certain exchange data is made public along with NSCC fails, short interest, ownership and ETF asset information etc., which is available for SRO market oversight. ***The SROs own data show 2 of every 3, and at times 3 of every 4 shares traded are the product of a short sale for important U.S. securities.***

The data suggests the SROs, including FINRA with its extensive market oversight powers, have not been enforcing federal securities laws, regulations or their own trading rules in real-time for at least the last 5 years. This is a serious market structure issue.

Regulators can enact all the laws, rules and regulations they wish that are nobly intended to provide the proper market structure for free and orderly trading in compliance with contract law and general principles of equitable trading. However, without enforcement of the rules within the market structure, the concepts provided by regulatory oversight will not be adhered to as long as some market participants know enforcement is lax. In this environment, regulatory arbitrage becomes a natural behavior and investors and the markets are vulnerable to abuse.

Conclusion

Regulators around the globe are rightfully concerned about different aspects of ETPs. Recently, more sophisticated investors and respected members of the securities industry have been critical of ETPs. A serious discussion of the data will take meaningful input from the industry, not just simple responses to demean ETP critics.

The data within this submission is derived from the industries own data collection processes and it is either correct (as it should be reported) or the deficiencies in the data need to be explained by the financial industry members reporting the information.

Collectively, the information and data sets provided here suggest there are significant concerns regarding ETPs and their interconnections to other derivative financial instruments. These derivatives can transmit risks to the underlying securities, many of which are key components of the U.S. economy. The amount of product interconnections is unprecedented and growing since the financial crisis. ETPs, related products and securities have not been individually or collectively stress tested and there are significant indications that as a group they will fail when seriously stressed.

The data suggests many ETPs are not operating within their own designed concept nor how regulators and investors perceive they should be functioning (creating/redeeming assets). Some ETFs do not appear to be in compliance with the underlying asset liquidity requirements of the 1940 Act. Most investors do not understand the differences between ETPs; some which are registered under the 1940 Act and others which are not.

The growth in ETF assets under management is more reflective of rising index values than actual growth of the underlying assets, which is detrimental to the mission of the SEC and the markets to provide capital formation for companies and investors. Most new ETPs have failed to gain sufficient assets under management and trading liquidity to be considered sustainable/successful.

Short selling is extreme in many ETFs. The lending markets are not being properly utilized to accommodate the selling, causing systemic risk from undisclosed leverage in the financial system (more shares sold than exist) for the benefit of very few while creating risks for all stakeholders, including taxpayers. There appears to be fictitious liquidity caused by extensive washed/matched type trading along with spoofing activity that is distorting market prices and the appearance of supply and demand.

ETP operators have been marketing their products to both sophisticated and average investors through large-scale advertising campaigns that appear to have omitted disclosures of some material risks from ETPs in the secondary market in which investors participate (such as; ETP assets are not required to be purchased with incoming investor monies, an investor may not actually be purchasing a share of the ETP and may or may not be delivered shares of the ETP and there may be many owners for each share of the ETP that does exist).

Ultimately, it may be the ETP operators that are held accountable by investors for their actions and lack of risk disclosures, which could include some firms that are 'too big to fail'.

Viewed holistically, the above data indicates ETPs and related derivative products pose potential systemic risks to operators of ETPs and Authorized Participants. More importantly, they pose serious risk to the asset management business in general involved with the products, investors in the products (including pension and mutual funds), underlying securities and the entire financial system, which ultimately may reverberate throughout the U.S. economy again.

The data indicates the industry SRO structure is not providing the oversight and enforcement mandated to the SROs by congress.

Government regulators currently have the advantage, before the next financial crisis occurs, of being able to look at ETPs and the risks they pose and take meaningful action before the products implode. It is time for the industry and its SROs to work with regulators to provide information, clear up any omissions of material facts and answer important questions with accurate data, before ETPs unravel and severely damage financial markets around the globe.

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