This is a follow up to our original submission to the SEC titled *Response to SEC Questions Regarding Exchange Traded Products*.[1] File Number S7-11-15

The ETF Stress Test of August 24, 2015

On August 24, 2015, global stock markets experienced turbulence, which continued in the U.S. markets. The Dow had the most volatile day in history, declining almost 1,100 points (6.6%) in the first 6 minutes of trading, recovering nearly 600 points just 8 minutes later. Throughout the day, the Dow gained 990 points from its low (which was the largest intraday point gain of all time). Stocks continued to fluctuate rapidly and by the end of the trading day, the Dow closed down 591 points or more than 3.5%.

On August 24, 2015, there was a real life stress test of exchange traded products ("ETPs") in the U.S. marketplace. In the opening minutes, the U.S. markets lost over $1 trillion.[2] The result was that many ETPs failed to maintain tradability, price discovery and the stated objectives of the products.

In our original comment letter, we challenged the ETP industry to respond to the overwhelming data that showed significant problematic issues within ETPs that could lead to broad collapses of exchange traded funds ("ETFs"). Monday, August 24th, was another test for ETPs similar to the May 2010 Flash Crash. The following data shows some of the outcomes of the ETPs that were under stress on August 24, 2015, including the fluctuation of ETFs versus their underlying index values and the changes in the U.S. markets portfolio value (which includes stakeholders in the health of the financial markets such as the U.S. taxpayers, that may have to bail out the financial system). Again, the industry needs to deal with its problems before ETFs seriously blow up.

Media/market observers have suggested various theories as to what happened with ETPs, many that are not supported by the data. Some have suggested illiquid underlying assets were the fault of ETPs triggering price circuit breakers because the underlying illiquid securities could not be priced (85% of trading halts were ETPs, not underlying securities). To examine this hypothetical reasoning, we looked at the most liquid securities in the U.S. markets, the S&P 500.

In previous submissions to the SEC, we have shown the data for the SPDR S&P 500 ETF (Symbol: SPY) versus its sister ETF, the iShares S&P 500 ETF (Symbol: IVV), during the May 2010 Flash Crash. During the Flash Crash, the IVV unhinged both from the underlying S&P 500 Index and the SPY, causing trades to be busted. A similar scenario occurred on August 24th.

[1] http://www.sec.gov/comments/s7-11-15/s71115-19.pdf

[2] The S&P 500 Index and Dow move somewhat in tandem. The Dow is very concentrated and sensitive to market movements. The S&P 500 is more broadly based and is not as sensitive as the Dow. Considering the two, the indication is to roughly value a 1,000 point move of the Dow at about one trillion dollars in relationship to the value gained or lost in the overall markets.

The S&P 500 Index and its Significant ETFs – Opening Trading on August 24, 2015

At the open, the Dow lost 1,094 points, equating to an approximate market-wide loss of over $1 trillion. The most important ETFs and ETPs are based on the S&P 500 companies. If ETPs based on the largest and most liquid companies trading in the U.S. cannot operate under stress, then most ETFs will not function properly when stressed further.

Here, the SPY and the IVV, both tracking the same companies, deviated from each other. Again, like during the 2010 Flash Crash, the IVV became unhinged from the S&P 500.

Chart 1 shows the price of the SPY from 9:30 to 10:30 am on August 24th.

Chart 2 shows the price and the trading halts for the IVV from 9:30 to 10:30 am on August 24th.

Chart 1 – SPY Pricing on August 24, 2015 from 9:30 to 10:30 am

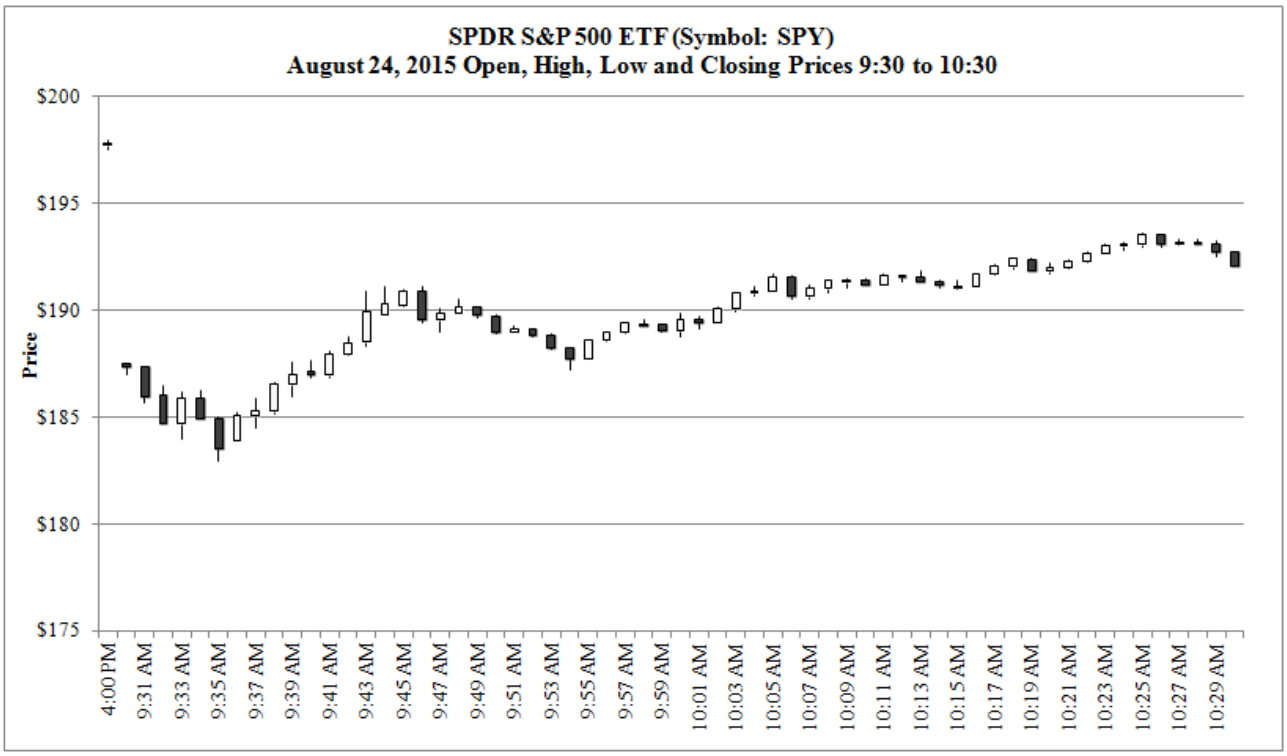
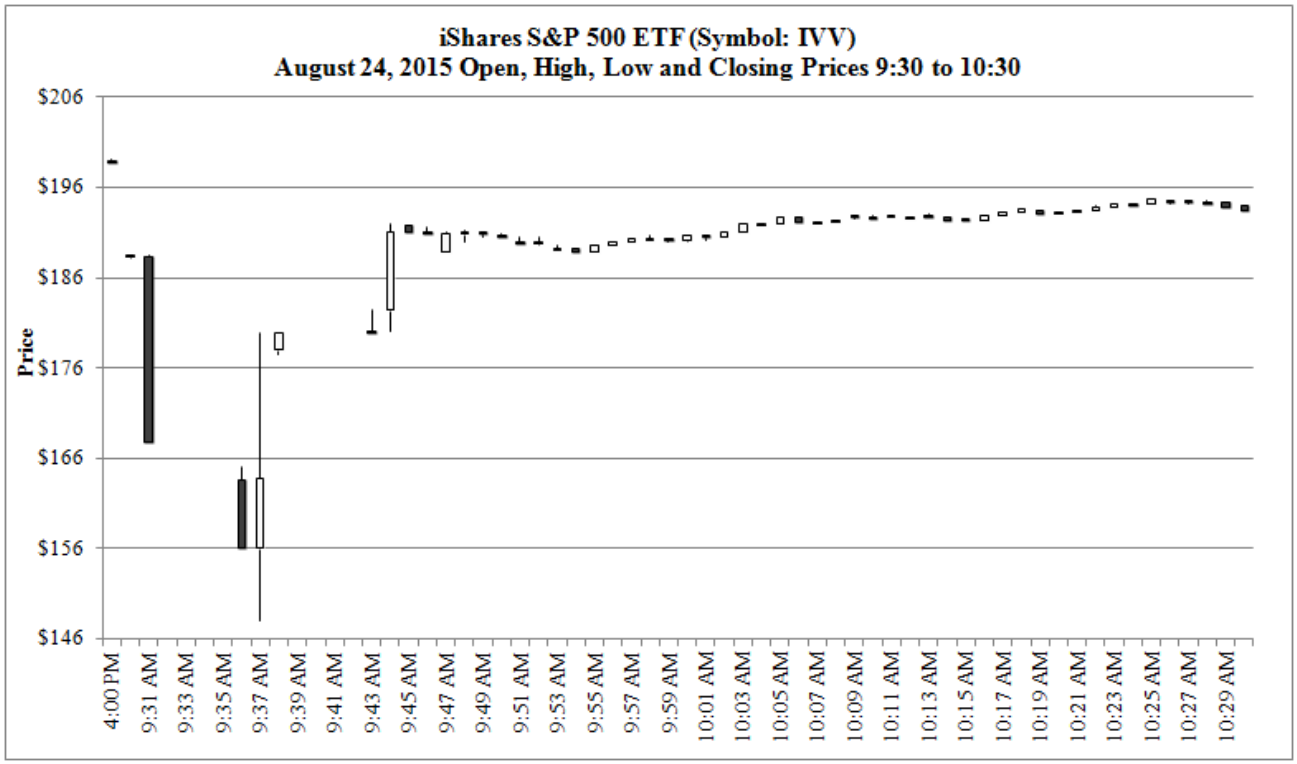


Chart 2 – IVV Pricing on August 24, 2015 from 9:30 to 10:30 am



The **iShares S&P 500 ETF (Symbol: IVV)** had closed on August 21st at $198.81 and opened at $188.51 on August 24th. In the 2nd minute of trading, the IVV became unhinged and fell $20.43 or 10.8%. This rapid decrease caused a 5-minute circuit breaker to be implemented.

When the IVV resumed trading from 9:36 am to 9:38 am, the price decreased from $163.57 to $148 (-9.5%) then recovered to $179.93 (+21.6%), which triggered another 5-minute circuit breaker.

At the lowest, the SPY priced the S&P 500 Index at 1,829 and the IVV priced the same index at 1,480; a 349 point difference, which would have resulted in an approximate additional loss to all markets of $3.2 trillion based on the IVV's price.

This is a serious break in the valuation of assets between the two most important ETFs based on large blue chip securities. The fact that this mispricing has now happened twice, suggests the likelihood of a third or more such deviations in the future. If the ETF product structure was sound, this would not occur, especially based on the most liquid securities in the U.S. markets.

This was Not an Anomaly

For example, the PowerShares S&P 500 Low Volatility Portfolio ETF (SPLV) is based on 100 S&P 500 companies that are suppose to trade with less volatility as advertised by the ETF operator, PowerShares. This ETF was halted ***11 times*** on August 24th. Each time it opened for trading, within seconds it tripped circuit breakers. The ETF did not match its goals of low volatility. It took more than an hour for the SPLV to begin trading even though it is based on S&P 500 companies like the SPY and IVV ETFs. Table 1 shows the starts and stops of the SPLV trading enforced by the NYSE ARCA exchange.

Table 1 – SPLV Trading Halts August 24, 2015

Halt Date	Halt Time	Resumption Trade Time	Issue Symbol	Issue Name
8/24/2015	10:30:19	10:36:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	10:24:20	10:30:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	10:18:16	10:24:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	10:12:15	10:18:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	10:06:20	10:12:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	10:00:15	10:06:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	9:54:32	10:00:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	9:48:15	9:54:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	9:42:15	9:48:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	9:36:15	9:42:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF
8/24/2015	9:30:35	9:36:00	SPLV	PowerShares S&P 500 Low Volatility Portfolio ETF

Circuit breaker halts can simply mask an underlying problem in a security. Perhaps, when a security is required to be halted multiple times, to protect the public interest, it should

stay halted until regulators determine why it has such problems and make an attempt to fix the issues before it is allowed to trade again.

ETPs That Triggered Circuit Breakers on August 24, 2015

Of the 1,237 individual circuit breaker trading halts in U.S. traded securities on August 24th, 1,046 were ETPs or 85%. This equated to trading in 317 different ETPs being halted, 216 of which were halted more than once.

Table 2 shows the number of ETPs and the number of times halted. This is another fatal flaw in the structure of ETPs. When Authorized Participants/market makers withdraw support, ETPs quickly collapse in large numbers.

Table 2 – ETPs that Tripped Circuit Breakers on August 24, 2015

Times Halted	Number of ETPs
1	101
2	58
3 - 6	116
7 - 12	42
Total	**317**

The halted ETPs were across various sectors and had different investment objectives. For example, there were ETPs halted that were based on broad indexes, financials, consumer staples, health care, small capitalization, large capitalization (including the S&P 500 Index), currencies and U.S. Treasury bonds.

In addition to ETPs based on equities, some of the ETPs were inverse and/or leveraged, which include other derivative instruments as underlying holdings.

Moreover, the halted securities were from a variety of ETP operators. As examples:

- Vanguard had 17 ETPs halted, with 14 halted more than once. The spread between the high and low trading prices for the 14 ETPs averaged 29%.
- State Street had 30 SPDR ETPs halted, with 18 halted more than once. The spread between the high and low trading prices for the 18 ETPs averaged 31%.
- First Trust had 32 ETPs halted, with 26 halted more than once. The spread between the high and low trading prices for the 26 ETPs averaged 35%.
- BlackRock had 58 iShares ETPs halted, with 46 halted more than once. The spread between the high and low trading prices for the 46 ETPs averaged 31%.

Underlying equity securities to ETFs did not fluctuate by 30%. These are wide deviations raising brilliant red flags regarding the trading stability of ETFs.

ETFs Representing a Variety of Blue Chip Assets Became Disconnected

Table 3 shows example ETFs that became unhinged from the underlying assets and experienced a decrease in prices much further than the underlying index assets they track. These ETFs are not based on exotic securities.

Table 3 – ETFs That Became Disconnected from Underlying Assets on August 24, 2015

Fund Name	Issuer	Symbol	Total Assets Under Management as of 8/21/15	Close 8/21/15	Day's Low 8/24/15	Change	% Change 8/21/15 Close to 8/24/15 Low Price
SPDR S&P MidCap 400 Value	State Street	MDYV	$115,430,000	$79.82	$38.89	**-$40.93**	**-51%**
Guggenheim S&P 500 Pure Growth	Guggenheim	RPG	$2,110,000,000	$79.17	$39.80	**-$39.37**	**-50%**
PowerShares S&P 500 Low Volatility	Invesco PowerShares	SPLV	$4,880,000,000	$36.90	$20.00	**-$16.90**	**-46%**
Direxion NASDAQ-100 Equal Weighted	Direxion	QQQE	$79,740,000	$61.41	$32.84	**-$28.57**	**-47%**
Guggenheim S&P 500 Equal Weight	Guggenheim	RSP	$10,120,000,000	$76.38	$43.77	**-$32.61**	**-43%**
Vanguard S&P Mid-Cap 400 Value	Vanguard	IVOV	$104,580,000	$90.93	$53.69	**-$37.24**	**-41%**
SPDR S&P MidCap 400 Growth	State Street	MDYG	$248,180,000	$121.04	$72.00	**-$49.04**	**-41%**
SPDR S&P 500 Value	State Street	SPYV	$212,560,000	$94.49	$59.45	**-$35.04**	**-37%**
iShares S&P Mid-Cap 400 Value	BlackRock	IJJ	$3,910,000,000	$119.83	$85.09	**-$34.74**	**-29%**
SPDR S&P 500 Growth	State Street	SPYG	$541,500,000	$95.84	$68.39	**-$27.45**	**-29%**
iShares Core S&P 500	BlackRock	IVV	$66,380,000,000	$198.79	$147.21	**-$51.58**	**-26%**
Fidelity NASDAQ Composite Tracking Stock	Fidelity	ONEQ	$594,020,000	$185.63	$141.00	**-$44.63**	**-24%**
iShares S&P 500 Growth	BlackRock	IVW	$12,760,000,000	$110.54	$85.21	**-$25.33**	**-23%**
iShares Core S&P Mid-Cap	BlackRock	IJH	$25,450,000,000	$142.21	$109.03	**-$33.18**	**-23%**
iShares S&P Mid-Cap 400 Growth	BlackRock	IJK	$5,590,000,000	$163.90	$126.00	**-$37.90**	**-23%**
First Trust NASDAQ-100 Equal Weighted	First Trust	QQEW	$562,110,000	$41.24	$33.45	**-$7.79**	**-19%**
PowerShares QQQ	Invesco PowerShares	QQQ	$36,700,000,000	$102.40	$84.74	**-$17.66**	**-17%**
iShares S&P 100	BlackRock	OEF	$3,910,000,000	$86.93	$71.52	**-$15.41**	**-18%**
Vanguard S&P Mid-Cap 400 Growth	Vanguard	IVOG	$379,130,000	$101.11	$83.33	**-$17.78**	**-18%**
iShares S&P 500 Value	BlackRock	IVE	$8,020,000,000	$87.20	$72.55	**-$14.65**	**-17%**
SPDR S&P MidCap 400	State Street	MDY	$15,040,000,000	$259.02	$216.91	**-$42.11**	**-16%**
Vanguard S&P 500 Value	Vanguard	VOOV	$272,580,000	$83.98	$70.00	**-$13.98**	**-17%**
Vanguard S&P Mid-Cap 400	Vanguard	IVOO	$380,230,000	$96.14	$81.24	**-$14.90**	**-15%**
Vanguard S&P 500 Growth	Vanguard	VOOG	$539,610,000	$99.01	$84.18	**-$14.83**	**-15%**
iShares Russell 2000 Growth	BlackRock	IWO	$6,770,000,000	$142.74	$123.85	**-$18.89**	**-13%**
Vanguard Russell 2000 Growth	Vanguard	VTWG	$148,630,000	$104.25	$92.80	**-$11.45**	**-11%**

Table 4 shows example ETFs from the above Table 3 that tripped circuit breakers multiple times.

Table 4 – Example ETFs that Triggered Circuit Breakers on August 24, 2015

ETF Fund Name	Issuer	Symbol	Total Assets Under Management as of 8/21/15	Close 8/21/15	Day's Low 8/24/15	Change	% Change 8/21/15 Close to 8/24/15 Low Price	Number of Times Halted from Circuit Breakers 8/24/15
PowerShares S&P 500 Low Volatility	Invesco PowerShares	SPLV	$4,880,000,000	$36.90	$20.00	-$16.90	-46%	**11**
Guggenheim S&P 500 Equal Weight	Guggenheim	RSP	$10,120,000,000	$76.38	$43.77	-$32.61	-43%	**10**
Guggenheim S&P 500 Pure Growth	Guggenheim	RPG	$2,110,000,000	$79.17	$39.80	-$39.37	-50%	**8**
SPDR S&P 500 Value	State Street	SPYV	$212,560,000	$94.49	$59.45	-$35.04	-37%	**5**
iShares S&P Mid-Cap 400 Value	BlackRock	IJJ	$3,910,000,000	$119.83	$85.09	-$34.74	-29%	**5**
SPDR S&P MidCap 400 Growth	State Street	MDYG	$248,180,000	$121.04	$72.00	-$49.04	-41%	**5**
Fidelity NASDAQ Composite Tracking Stock	Fidelity	ONEQ	$594,020,000	$185.63	$141.00	-$44.63	-24%	**4**
SPDR S&P MidCap 400 Value	State Street	MDYV	$115,430,000	$79.82	$38.89	-$40.93	-51%	**4**
Vanguard S&P Mid-Cap 400 Value	Vanguard	IVOV	$104,580,000	$90.93	$53.69	-$37.24	-41%	**3**
iShares Core S&P Mid-Cap	BlackRock	IJH	$25,450,000,000	$142.21	$109.03	-$33.18	-23%	**3**

The underlying asset values were significantly affected. For example, the Guggenheim S&P 500 Equal Weight ETF (Symbol: RSP) at one point lost over $4 billion in share asset value, while being halted 10 times. Moreover, above this amazing trading, is the fact that this ETF is based on S&P 500 securities. Table 5 shows the starts and stops of trading for this ETF and it took 1 hour to actually open for sustained trading.

Table 5 – RSP Trading Halts August 24, 2015

Halt Date	Halt Time	Resumption Trade Time	Issue Symbol	Issue Name
8/24/2015	10:24:15	10:30:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	10:18:16	10:24:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	10:12:15	10:18:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	10:06:15	10:12:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	10:00:15	10:06:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	9:54:34	10:00:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	9:48:15	9:54:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	9:42:15	9:48:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	9:36:15	9:42:00	RSP	Guggenheim S&P 500 Equal Weight ETF
8/24/2015	9:30:25	9:36:00	RSP	Guggenheim S&P 500 Equal Weight ETF

The ETF examples in Table 6 varied ***significantly*** from their underlying indexes and each tripped circuit breakers, halting the trading.

Table 6 – Example Halted ETFs vs. Underlying Indexes on August 24, 2015

Index	Index % Change from 8/21 Close to 8/24 Low	ETF Fund Name	Issuer	Symbol	Total Assets Under Management as of 8/21/15	% Change 8/21/15 Close to 8/24/15 Low Price	ETF % Deviation from Index
S&P Mid Cap 400 Value Index	**-4%**	SPDR S&P MidCap 400 Value	State Street	MDYV	$115,430,000	-51%	**-47%**
S&P 500 Pure Growth	**-6%**	Guggenheim S&P 500 Pure Growth	Guggenheim	RPG	$2,110,000,000	-50%	**-44%**
NASDAQ 100 Equal Weighted	**-9%**	Direxion NASDAQ-100 Equal Weighted	Direxion	QQQE	$79,740,000	-47%	**-38%**
S&P 500 Low Volatility Index	**-4%**	PowerShares S&P 500 Low Volatility	Invesco PowerShares	SPLV	$4,880,000,000	-46%	**-42%**
S&P 500 Equal Weight	**-4%**	Guggenheim S&P 500 Equal Weight	Guggenheim	RSP	$10,120,000,000	-43%	**-38%**
S&P Mid Cap 400 Value Index	**-4%**	Vanguard S&P Mid-Cap 400 Value	Vanguard	IVOV	$104,580,000	-41%	**-37%**
S&P Mid Cap 400 Growth Index	**-4%**	SPDR S&P MidCap 400 Growth	State Street	MDYG	$248,180,000	-41%	**-36%**
S&P 500 Value Index	**-5%**	SPDR S&P 500 Value	State Street	SPYV	$212,560,000	-37%	**-32%**
S&P 500 Growth Index	**-6%**	SPDR S&P 500 Growth	State Street	SPYG	$541,500,000	-29%	**-23%**
S&P Mid Cap 400 Value Index	**-4%**	iShares S&P Mid-Cap 400 Value	BlackRock	IJJ	$3,910,000,000	-29%	**-25%**
S&P 500 Index	**-5%**	iShares Core S&P 500	BlackRock	IVV	$66,380,000,000	-26%	**-21%**
NASDAQ Composite Index	**-9%**	Fidelity NASDAQ Composite Tracking Stock	Fidelity	ONEQ	$594,020,000	-24%	**-15%**
S&P 500 Growth Index	**-6%**	iShares S&P 500 Growth	BlackRock	IVW	$12,760,000,000	-23%	**-17%**
S&P Mid Cap 400 Growth Index	**-4%**	iShares S&P Mid-Cap 400 Growth	BlackRock	IJK	$5,590,000,000	-23%	**-19%**
S&P 400 Mid Cap Index	**-4%**	iShares Core S&P Mid-Cap	BlackRock	IJH	$25,450,000,000	-23%	**-19%**
NASDAQ 100 Equal Weighted	**-9%**	First Trust NASDAQ-100 Equal Weighted	First Trust	QQEW	$562,110,000	-19%	**-10%**
S&P Mid Cap 400 Growth Index	**-4%**	Vanguard S&P Mid-Cap 400 Growth	Vanguard	IVOG	$379,130,000	-18%	**-13%**

There were ETFs that **did not trip circuit breakers**, but fell more than 10% in trading price from the close on August 21st to the low on August 24th. These example ETFs in Table 7 not only fell more than 10%, but also deviated significantly from their underlying indexes, without any circuit breaker protections.

Table 7 – Example ETFs that Did Not Result in Circuit Breaker Protection vs. Underlying Indexes on August 24, 2015

Index	Index % Change from 8/21 Close to 8/24 Low	ETF Fund Name	Issuer	Symbol	Total Assets Under Management as of 8/21/15	% Change 8/21/15 Close to 8/24/15 Low Price
S&P 100 Index	**-6%**	iShares S&P 100	BlackRock	OEF	$3,910,000,000	**-18%**
NASDAQ 100 Index	**-10%**	PowerShares QQQ	Invesco PowerShares	QQQ	$36,700,000,000	**-17%**
S&P 500 Value Index	**-5%**	iShares S&P 500 Value	BlackRock	IVE	$8,020,000,000	**-17%**
S&P 500 Value Index	**-5%**	Vanguard S&P 500 Value	Vanguard	VOOV	$272,580,000	**-17%**
S&P 400 Mid Cap Index	**-4%**	SPDR S&P MidCap 400	State Street	MDY	$15,040,000,000	**-16%**
S&P 500 Growth Index	**-6%**	Vanguard S&P 500 Growth	Vanguard	VOOG	$539,610,000	**-15%**
S&P 400 Mid Cap Index	**-4%**	Vanguard S&P Mid-Cap 400	Vanguard	IVOO	$380,230,000	**-15%**
Russell 2000 Growth Index	**-5%**	iShares Russell 2000 Growth	BlackRock	IWO	$6,770,000,000	**-13%**
Russell 2000 Growth Index	**-5%**	Vanguard Russell 2000 Growth	Vanguard	VTWG	$148,630,000	**-11%**

Like the disparity between the SPY and IVV, the differential between the underlying indexes and ETFs shown above were so great that if the indexes were priced according to the ETFs, there would have been major catastrophic events across the different indexes and sectors of the market.

250 Billion Dollars, 500 Billion Dollars (1/2 Trillion Dollars) and a Trillion Dollars Here and a Trillion Dollars There; Adds up to Real Money

The following Dow charts illustrate the money flowing to and from the U.S. markets on August 24, 2015.

The U.S. capital markets can be viewed as a portfolio of investments in the U.S. economy by all stakeholders involved, including U.S. taxpayers at risk from financial bailouts. In other words, if the U.S. stock markets lose trillions of dollars it affects everyone in the U.S. and usually the global economic system.

The following chart shows the fluctuation basically within the portfolio of the U.S. taxpayers. Extreme fluctuations of hundreds of billions of dollars within minutes are detrimental to the best interest of investors, taxpayers and the U.S. government because they create questions regarding the integrity, fairness and quality of the markets.

Chart 3 shows the Dow index instability through large changes on August 24th. Chart 4 uses the Dow as a proxy to show the swift market valuation changes throughout the day.

Chart 3 – Index Value Changes in the Dow on August 24, 2015

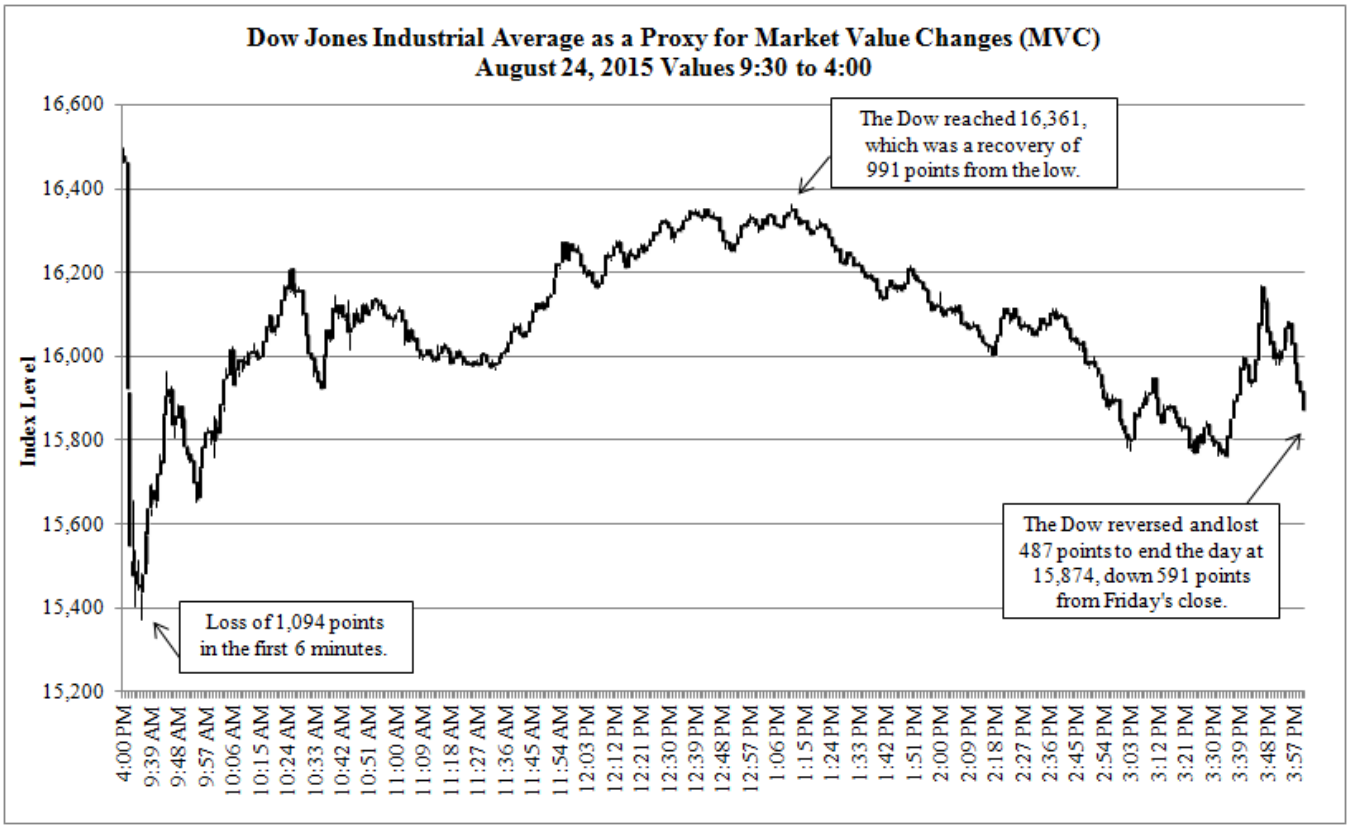
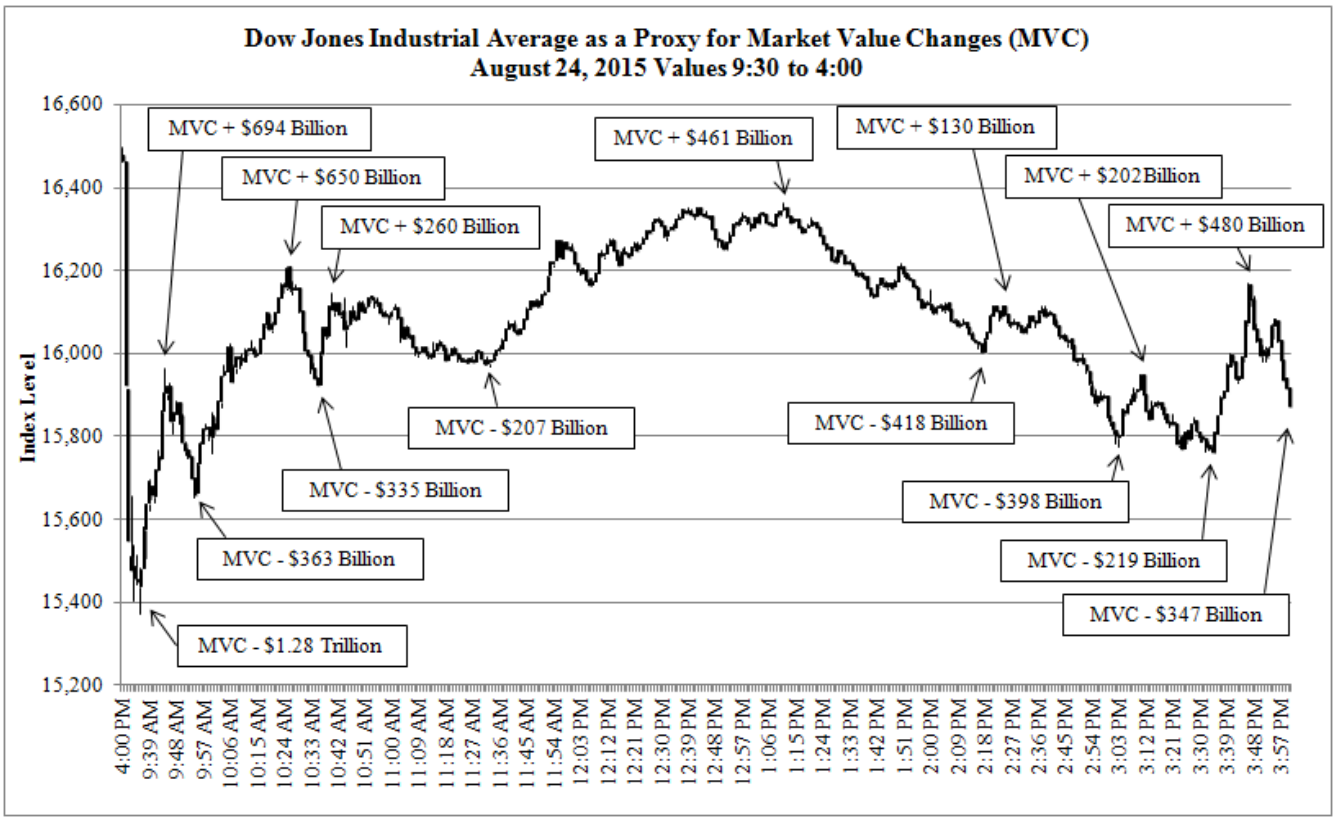


Chart 4 – The Dow as a Proxy for Market Value Changes on August 24, 2015



The above chart shows trillions of dollars of movement within **just one day**, whipsawing the portfolio of the U.S. markets by hundreds of billions of dollars throughout the day. By any measure these gyrations of portfolio values are not healthy for the markets or the U.S. economy.

There is no rationalization for these swings in valuation in an orderly supply and demand marketplace. This trading was driven by high frequency and algorithmic computer trading programs. It is obvious there is enough evidence to suggest that computer-driven trading can in fact change portfolio values of the U.S. by trillions of dollars in very short periods of time.

Fleeting Liquidity

Some argue that computer-driven trading adds liquidity, acting as a type of market making function to the capital markets. But is this liquidity healthy? In stressed markets liquidity on the buy-side leaves while computer driven systems may just keep selling, artificially exacerbating market difficulties (see SEC/CFTC 2010 Flash Crash report[3]).

Events like those experienced during the week of August 24th, are not healthy for liquidity, in fact they are very detrimental to the markets for years to come. Proof of this can be found in the decreases in consolidated volumes that have occurred after disruptive market events. Simply put, investors lose trust in markets and withdraw capital when markets do not properly function.

The real problem with these swings is the affects they have on future investor trust and investments in the markets. Large moves are occurring so fast, investors do not have time to react. If a trillion dollars in market value can be lost in 5 minutes, why not in 1 minute as markets continue to race faster? Accompany this with hundreds of ETPs having problems at the same time.

How many more damaging events like this are required before real liquidity drains out of the markets to the point they will not function as Congress designed?

Retail Investor Order Types

It has been suggested in the media that retail investors helped cause the market decline on August 24th because they entered market orders. It is hard to fathom how retail investors could have caused 317 ETPs to trigger circuit breakers and a trillion dollar decline in the U.S. markets from just placing market orders.

The liquidity in the market is a function of pre-execution-market order books. Futures had the markets down on August 24th. How could retail market orders possibly influence the order books and futures market on a large scale?

As an alternative, some in the industry have suggested retail investors should use a limit order.[4] The reality of a limit order in a fast moving market is that it will rarely be filled and the majority of limit orders will not keep pace with the market, especially in a downward market such as the opening on August 24th. Conversely, chasing a market with limit orders that is moving upward in a matter of minutes by a half trillion dollars is also an exercise in futility.

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[3] *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.

[4] Barron's article: *Market Plunge Provides Harsh Lessons for ETF Investors*, by Chris Dieterich, August 29, 2015 http://www.barrons.com/articles/market-plunge-provides-harsh-lessons-for-etf-investors-1440826630

Some argue that natural market forces are 'all knowing', consistently pricing securities correctly. Some even argue that computer-driven trading speeds enhance this process and make the markets more efficient. ETFs, under stress, do not follow the 'all knowing' market theory. In times of stress, the ETF data tells a story of inefficiencies that can be magnified by algorithmic and high frequency trading ("HFT").

Suggestions that Circuit Breakers May have Altered the Outcome

This is the not the first time many of these same ETPs have experienced problems. During the May 2010 Flash Crash there were 227 ETPs that had trades busted when the prices fluctuated greater than 60% (many collapsed to virtual zero). On August 24th, there were 81 of these same ETPs that triggered circuit breakers.

In other words, **many of the same ETPs that collapsed and went to <u>virtually $0</u> in 2010 would have collapsed <u>again</u> in August 2015** had it not been for the circuit breakers, which were sometimes triggered repeatedly. On this day, without the circuit breakers (which are not properly designed), there would have been a large amount of trades required to be cancelled.

Circuit breakers sugar-coated the fact that many ETPs would have actually collapsed on August 24, 2015, but they did not create the fundamental problems with ETPs. ETP problems are inherent in the structural models the products are operating under. In this case (as it was in the 2010 Flash Crash), when Authorized Participants/market makers cease to support ETPs they can swiftly and substantially decline in price.

The flaws within the ETP structure that have allowed the products to disconnect from the underlying securities and rapidly fall in price **are apparent, which poses systemic risk to the financial system.** How many times should we drive off the cliff to test the fate of death?

Other Types of Circuit Breakers?

As a general thought/suggestion, when major market-wide imbalances in orders occur (price or volume related), the trading could be altered for a 30-minute time period during which shares are auctioned between buyers and sellers to obtain/discover real prices (slowing the trading down) and the markets could reopen after the auctioning process for normal trading at the newly established pricing.[5] For example, GE fell 21% in price before recovering on August 24th; this would have been unlikely using the auction process described.

Hopefully, this would stabilize liquidity and cause an intervention of the trading between real buyers/sellers and HFT/algorithmic machines that follow each other, pushing prices out of balance when the markets become stressed. This type of pause should also reduce the ability of computers to (with or without intent) manipulate the markets.

[5] Similar to the theory proposed by Brad Katsuyama for IEX Group, but perhaps at 1-minute intervals.

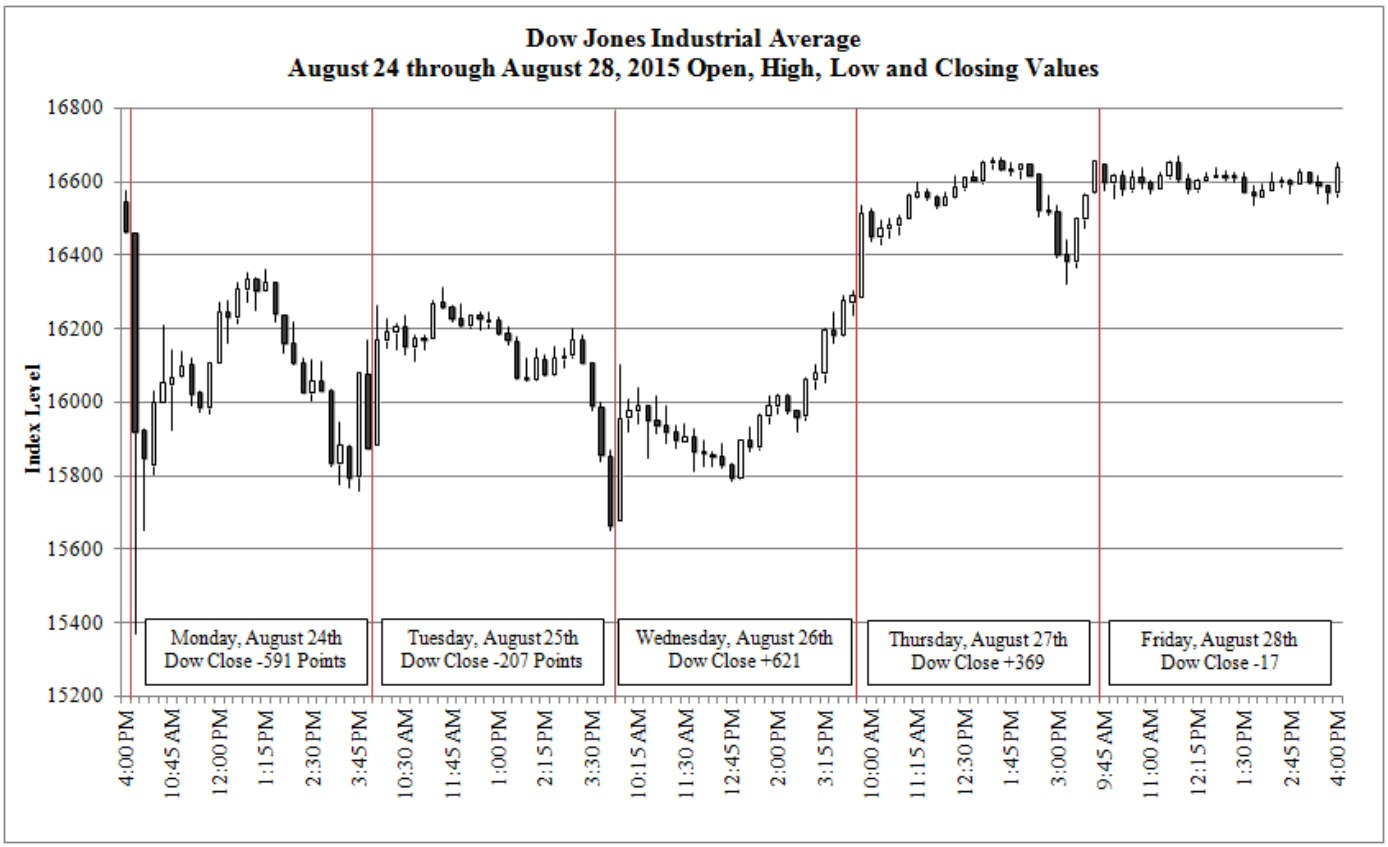
The Week of August 24, 2015

The movements in prices were rapid and resulted in many several hundred point swings in the Dow during the week. Measuring these swings between high and low values while considering that computer trading is now dominating the U.S. markets (some estimates suggest up to 70% of trade volumes is now from HFT, which is supposedly flat in end-of-day positions), indicates there was a small amount of invested money used to push stocks either up or downward, while changing portfolio values substantially.

Again, using the Dow as a proxy for market value changes shows these swings resulted in the U.S. markets portfolio value fluctuating by hundreds of billions of dollars multiple times throughout the trading days. In total, approximately ***$12.8 trillion*** in larger movements up or down occurred.

These moves appeared to be irrational. Long-term market commentators were at a loss for explanations. The global and U.S. markets continued to be turbulent for the rest of the week following August 24th, as shown in Chart 5. Despite the significant movements, by the close on August 28th the Dow had ***gained 175 points*** for the week. If the markets were showing pricing efficiencies, the Dow stocks should not have been priced 1,269 points lower on Monday, August 24th then they were on Friday, August 28th.

Chart 5 – The Dow Value August 24 through August 28, 2015



There were several records set throughout the volatile week for the Dow:

- August 24th had the largest intraday drop (-1,089 points), the largest intraday swing up (+990 points) and closed with the 8th largest loss in history (-591 points).
- August 25th was the largest intraday gain on the Dow (+430 points) that ended negative (-646 points), another trillion dollar up/down.
- August 26th was the 3rd largest daily gain (+621 points).
- August 26th and 27th was the largest 2-day point gain in history (total of +990 points), for another trillion dollar move in the value of the U.S. markets.

The **$12.8 trillion** in large market swings during the week resulted in a net change to the U.S. stock market portfolio of **less than $200 billion**. For the weeks' trading, over 50% of the shares sold were products of a short sale (not owned by the seller).[6] For each trillion dollars of market value, the net end of week market change was approximately $13 billion.

To put this in perspective, the **$12.8 trillion of value is about ½ of the entire market capitalization value of U.S. traded companies**.[7]

How much of the trading was washed/matched/hot potato type trading? What was the source of the locates for the short sales? Were these shares loaned/borrowed and delivered to the purchaser? This week also raises the question whether the markets are operating under the existing laws, rules and regulations for short selling?

As an example, the SPY for the week was 59% sold short on SRO/reporting markets.[8] Using the percent of short selling on reporting markets as a proxy for the consolidated tape suggests approximately 924 million SPY shares were sold short, which is greater than the 836 million average SPY shares outstanding during the period. During the week, the SPY shares outstanding were sold almost twice (1.57 billion shares) for over $300 billion in trading; a very rapid turnover ratio.

Table 8 shows the market value changes (approximately $1 trillion per 1,000 points in the Dow) for each major swing in the Dow up or down, the net value of the movements for each day and the net weekly result of all the volatility.

[6] Based on the collective average short selling on the SRO/reporting markets for each individual S&P 500 company.
[7] The World Federation of Exchanges data shows the U.S. market capitalization as of July 2015 was $26.8 trillion.
[8] 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). Excluded data has not been produced in part by the NYSE, NYSE Amex, alternative trading systems/dark pools and possibly other sources.

Table 8 – Large Dow Value Changes as a Proxy for Market Value Changes August 24 through August 28, 2015

Date	Time	Approximate Market Value Change Down from Prior Peak Value	Approximate Market Value Change Up from Prior Low Value	Net Result
8/24/2015	9:36 AM	$ (1,281,818,181,818)		
8/24/2015	9:44 AM		$ 694,265,974,472	
8/24/2015	9:54 AM	$ (363,164,057,926)		
8/24/2015	10:25 AM		$ 650,060,501,971	
8/24/2015	10:35 AM	$ (334,732,034,818)		
8/24/2015	10:40 AM		$ 259,693,977,126	
8/24/2015	11:33 AM	$ (207,162,652,719)		
8/24/2015	1:11 PM		$ 461,364,612,202	
8/24/2015	2:17 PM	$ (418,095,944,416)		
8/24/2015	2:22 PM		$ 129,946,524,064	
8/24/2015	3:03 PM	$ (398,493,305,750)		
8/24/2015	3:10 PM		$ 201,881,416,136	
8/24/2015	3:35 PM	$ (219,294,273,781)		
8/24/2015	3:46 PM		$ 480,217,807,096	
8/24/2015	4:00 PM	$ (346,746,555,291)		
	Sub Total	**$ (3,569,507,006,519)**	**$ 2,877,430,813,068**	**$ (692,076,193,450)**
8/25/2015	9:41 AM		$ 456,270,736,563	
8/25/2015	10:34 AM	$ (178,648,659,198)		
8/25/2015	11:24 AM		$ 236,437,800,070	
8/25/2015	1:47 PM	$ (297,306,686,444)		
8/25/2015	2:51 PM		$ 167,348,452,321	
8/25/2015	4:00 PM	$ (644,896,365,978)		
	Sub Total	**$ (1,120,851,711,620)**	**$ 860,056,988,954**	**$ (260,794,722,667)**
8/26/2015	9:34 AM		$ 507,631,055,076	
8/26/2015	10:21 AM	$ (295,386,236,777)		
8/26/2015	10:35 AM		$ 199,305,203,170	
8/26/2015	12:41 PM	$ (271,122,994,652)		
8/26/2015	2:00 PM		$ 276,322,260,822	
8/26/2015	2:22 PM	$ (121,690,932,511)		
8/26/2015	3:53 PM		$ 451,036,340,216	
8/26/2015	4:00 PM	$ (46,875,365,939)		
	Sub Total	**$ (735,075,529,880)**	**$ 1,434,294,859,284**	**$ 699,219,329,404**
8/27/2015	9:43 AM		$ 288,172,840,470	
8/27/2015	10:06 AM	$ (126,421,796,323)		
8/27/2015	11:09 AM		$ 200,359,108,474	
8/27/2015	11:43 AM	$ (83,539,560,482)		
8/27/2015	1:13 PM		$ 164,783,949,413	
8/27/2015	3:07 PM	$ (402,357,625,200)		
8/27/2015	4:00 PM		$ 390,823,217,144	
	Sub Total	**$ (612,318,982,006)**	**$ 1,044,139,115,500**	**$ 431,820,133,495**
8/28/2015	9:50 AM	$ (122,007,104,102)		
8/28/2015	11:35 AM		$ 137,382,411,491	
8/28/2015	1:42 PM	$ (157,839,884,461)		
8/28/2015	4:00 PM		$ 135,813,263,593	
	Sub Total	**$ (279,846,988,563)**	**$ 273,195,675,085**	**$ (6,651,313,478)**
	Total	**$ (6,317,600,218,588)**	**$ 6,489,117,451,891**	**$ 171,517,233,303**

What May be the Influence Causing the Disrupted Market

There are many observers and commentators espousing speculative beliefs as to the cause of massive market movements during the week of August 24th. The speculation varies from the change in oil prices, China's economic instability, the Federal Reserve raising interest rates, global growth deceleration, U.S. margin calls, stop loss orders and other theoretical concepts of market activity.

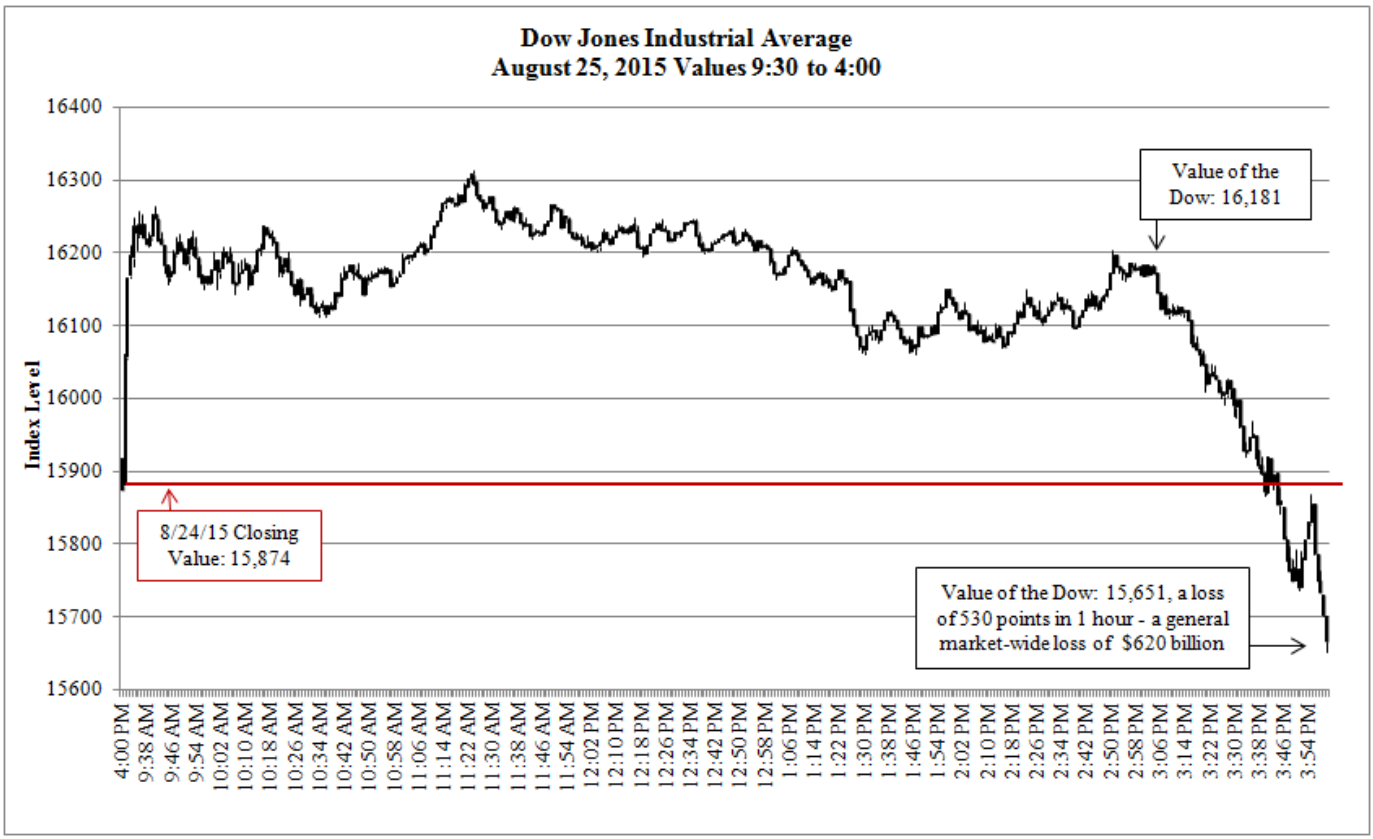
To glean some insight, we looked for clues within the trading data. Specifically, at the 'one-hour 530 point decline' in the Dow at the end of the trading day on Tuesday, August 25th. The average drop in the Dow from 3:00 to 4:00 pm was 88 points every 10 minutes, averaging $103 billion every 10 minutes.

Who were the contra parties purchasing these shares as the values were falling? Who, with that kind of money, was chasing the theoretical referred to 'falling knife' of stock prices? During the 530 point drop, which occurred at a much faster rate of trading than the rest of the day, you can pretty much eliminate all other investors as the major purchasers of the $620 billion in stock value as the markets fell. The data seriously suggests the majority of this trading occurred at speeds that could only be driven by HFT/algorithmic machines (further suggesting the washing and matching of trades).

The trading shows buyers continued to match sellers and at a more increased pace than during the rest of the trading day. This indicates the impact of that trading should not have equated to more than ½ trillion dollars in market portfolio loss and suggests either there is a lot of power behind a computerized and algorithmic trading firm or they are all 'following the crowd', or both; a more sophisticated system is out front that is designed to lead other machines into selling/buying as prices declined (using spoofing and other manipulative techniques used by some HFT firms).

From 9:30 to almost 3:00 pm, trading was clearly orientated to an upward moving market, indicating positive purchases for stocks. Chart 6 shows the rapid drop at the end of the day, which was worth approximately **$620 billion** of U.S. market value.

Chart 6 – Index Value Changes in the Dow on August 25, 2015



A review of the SRO/reporting markets short sale data shows 279 of the S&P 500 companies had short selling greater than 50% of their total trade volume (56% of the companies). Who sold the short sales is an issue, but who ***bought*** the short sales is a central question.

Table 9 shows the percent of short selling on reporting markets for 150 example S&P 500 companies. The data shows the short selling was elevated in these stocks across **all** SRO/reporting markets, indicating the influence of downward pressure was across all markets and not limited to a few SROs/exchanges.

Table 9 – Percent of Short Selling in Example S&P 500 Companies August 25, 2015

Company	Percent of Short Sale Volume on SRO Reporting Markets
Mattel Inc	89%
Discovery Communications Inc A	81%
Microchip Technology Inc	80%
The ADT Corp.	80%
Flowserve Corp	77%
Brown-Forman Corp B	77%
Royal Caribbean Cruises Ltd	77%
Patterson Cos Inc	76%
Diamond Offshore Drilling	76%
Intl Flavors & Fragrances	75%
Southern Co	75%
CONSOL Energy Inc	75%
Progressive Corp	74%
CMS Energy Corp	74%
Marriott Intl A	74%
WEC Energy Group Inc	74%
Consolidated Edison Inc	74%
Leucadia National Corp (NY)	74%
Ross Stores Inc	73%
People's United Financial Inc	73%
Ensco PLC - CL A	73%
ONEOK Inc	72%
Assurant Inc	72%
Centerpoint Energy Inc	71%
Range Resources Corp	71%
Harley-Davidson Inc	71%
Zions Bancorp (UT)	71%
Waters Corp	71%
Paychex Inc	70%
Wyndham Worldwide Corp	70%
Deere & Co	70%
Unum Group	70%
KLA-Tencor Corporation	70%
Estee Lauder Cos.	69%
Schein Henry Inc	69%
Applied Materials Inc	69%
Keurig Green Mountain Inc	69%
Whirlpool Corp	69%
Stericycle Inc	69%
Huntington Bancshares (OH)	69%
T Rowe Price Group Inc	68%
AES Corp	68%

Company	Percent of Short Sale Volume on SRO Reporting Markets
Cablevision Systems Co A	68%
Pentair PLC	68%
Garmin Ltd	68%
Helmerich & Payne Inc	68%
Amphenol Corp A	67%
Ecolab Inc	67%
Constellation Brands Inc A	67%
Expeditors Intl of WA Inc	67%
Seagate Technology	67%
Newell Rubbermaid Inc	67%
Cerner Corp	67%
3M Co	67%
Hanesbrands Inc	66%
AMETEK Inc	66%
Caterpillar Inc	66%
CA Inc	66%
Dun & Bradstreet Corp	66%
NetApp Inc	66%
L Brands Inc	66%
Archer-Daniels-Midland Co	66%
Motorola Solutions Inc	66%
Fluor Corp	65%
Walt Disney Co	65%
Fastenal Co	65%
Noble Energy Inc	65%
Best Buy Co Inc	65%
Dentsply Intl	65%
Rockwell Automation Inc	65%
Stryker Corp	65%
FirstEnergy Corp	65%
Host Hotels & Resorts Inc	65%
PACCAR Inc	65%
Phillips 66	65%
Intuitive Surgical Inc	65%
Omnicom Group	64%
US Bancorp	64%
HCP Inc	64%
Pulte Group Inc	64%
Norfolk Southern Corp	64%
McGraw Hill Financial Inc	64%
AmerisourceBergen Corp	64%
Iron Mountain Inc	64%

Table 9 – Continued

Company	Percent of Short Sale Volume on SRO Reporting Markets
Marsh & McLennan Companies	64%
Apartment Investment & Mgmt	64%
KeyCorp	63%
Alliance Data Systems Corp	63%
Clorox Co	63%
VF Corp	63%
Urban Outfitters	63%
St Jude Medical Inc	63%
Symantec Corp	63%
Borgwarner Inc	63%
AutoNation Inc	63%
Staples Inc	63%
Alexion Pharmaceuticals Inc	63%
Gap Inc	63%
Pinnacle West Capital (AZ)	63%
Delphi Automotive PLC	63%
Xilinx Inc	63%
Quanta Services Inc	63%
Cintas Corp	62%
Broadcom Corp A	62%
Northrop Grumman Corp	62%
Tenet Healthcare	62%
Marathon Oil Corp	62%
Rockwell Collins	62%
Duke Energy Corp	62%
Hormel Foods Corp	62%
Whole Foods Market Inc	62%
Stanley Black & Decker	62%
Realty Income Corp	62%
Tyson Foods Inc A	62%
Waste Management Inc	62%
CME Group Inc	62%
Alcoa Inc	62%

Company	Percent of Short Sale Volume on SRO Reporting Markets
Hershey Foods Corp	62%
Western Union Co	62%
United Parcel Service Inc B	62%
Corning Inc	62%
Total System Services Inc	62%
Nucor Corp	61%
Intel Corp	61%
Discovery Communications Inc C	61%
Tyco Intl	61%
National Oilwell Varco Inc	61%
J.M. Smucker Co	61%
Masco Corp	61%
Fifth Third Bancorp (OH)	61%
Cardinal Health Inc	61%
SanDisk Corp	61%
Bed Bath & Beyond Inc	61%
Roper Technologies, Inc	61%
United Rentals Inc	60%
Ryder System Inc	60%
Campbell Soup Co	60%
Transocean Ltd	60%
BB&T Corp	60%
Kansas City Southern Inc	60%
Becton Dickinson & Co	60%
Lam Research Corp	60%
Target Corp	60%
Red Hat Inc	60%
General Dynamics	59%
M&T Bank Corp	59%
Micron Technology Inc	59%
General Growth Properties Inc	59%
McCormick & Co	59%
CenturyLink Inc	59%

The companies in Tables 9 and 10 are large U.S. blue chip companies and components in the SPY, IVV; the most important ETFs. There are other S&P 500 related products that now have become potentially disruptive to the functioning of the markets (such as E-Mini futures, options and over 100 other ETFs). These securities based on the S&P 500 make up the majority of the value traded in the U.S. markets across equities, options, futures, swaps and derivatives.

Some S&P 500 securities and Dow components had more shares sold short on Tuesday, August 25th than their average daily trade volumes from July 1st through August 20, 2015. For example, using the reporting markets percentage as a proxy for the consolidated tape volume equates to approximately **37 million Microsoft shares sold short**, which is 7 million shares

higher than Microsoft's average daily trade volume prior to the increase in volatility (30 million shares from July 1st through August 20th, 36 trading days). The data for Microsoft (both an S&P 500 and Dow component) and other example S&P 500 stocks are shown in Table 10, with components of the Dow highlighted.

Table 10 – Sample of S&P 500 Companies Short Sale Volume on August 25, 2015[9]

Symbol	Company	Average Daily Volume 7/1 - 8/20/15 (36 Trading Days)	Approximate Short Sales Based on SRO Reporting Markets Percent	Short Shares on 8/25/15 in Excess of Average Daily Volume Based on SRO Data
MMM	**3M Co**	**2,275,328**	**3,616,504**	**1,341,176**
KO	**Coca-Cola Co**	**12,089,825**	**17,453,899**	**5,364,074**
XOM	**Exxon Mobil Corp**	**13,120,047**	**17,377,847**	**4,257,800**
INTC	**Intel Corp**	**32,446,894**	**36,025,283**	**3,578,389**
PG	**Procter & Gamble**	**8,506,911**	**11,355,905**	**2,848,994**
MSFT	**Microsoft Corp**	**30,405,528**	**37,297,068**	**6,891,541**
DIS	**Walt Disney Co**	**11,168,522**	**12,362,572**	**1,194,050**
WMT	**Wal-Mart Stores**	**7,629,864**	**7,925,936**	**296,072**
AES	AES Corp	4,980,050	6,331,397	1,351,347
AMAT	Applied Materials Inc	16,521,758	17,842,371	1,320,613
BBT	BB&T Corp	4,664,658	5,476,294	811,636
BBY	Best Buy Co Inc	3,452,533	13,697,176	10,244,642
GLW	Corning Inc	10,044,986	12,371,201	2,326,215
DISCA	Discovery Communications	3,773,003	6,285,135	2,512,132
FAST	Fastenal Co	2,326,122	4,704,198	2,378,075
FITB	Fifth Third Bancorp (OH)	5,864,081	7,038,198	1,174,117
HBAN	Huntington Bancshares (OH)	8,259,967	9,772,630	1,512,663
KEY	KeyCorp	8,632,642	9,031,527	398,885
MAT	Mattel Inc	4,820,642	7,975,585	3,154,943
MET	Metlife Inc	5,381,553	6,884,431	1,502,878
NAVI	Navient Corp	2,904,786	5,181,214	2,276,428
NTAP	NetApp Inc	3,524,542	4,384,252	859,711
NWSA	News Corporation	2,990,078	4,492,826	1,502,748
NVDA	Nvidia Corp	8,084,464	8,708,288	623,824
PBCT	People's United Financial Inc	3,984,558	5,660,901	1,676,343
SO	Southern Co	4,970,961	7,199,987	2,229,026
SPLS	Staples Inc	7,234,208	7,798,352	564,143
SYMC	Symantec Corp	3,936,483	6,443,294	2,506,811
USB	US Bancorp	6,262,431	10,368,657	4,106,226
WU	Western Union Co	5,870,183	6,428,744	558,560
	Totals	**246,127,608**	**317,491,671**	**71,364,063**

[9] Based on SRO/Exchange reported short sale data percentages.

As a group, the average daily volume for these 30 companies was 246 million shares and the short selling on August 25th was approximately 317 million shares, which is suggestive of aggressive short selling intimidating the markets lower.

Not only is it statistically significant that the short sale volume exceeded the average daily volume, but for some companies short selling well surpassed the average volume. As examples, on August 25th;

- 3M had 59% more short sale volume than its average daily volume,
- Coca-Cola had 44% more short sale volume than its average daily volume,
- Best Buy's short sale volume was **almost 4 times** its average daily volume,
- Discovery had 67% more short sale volume than its average daily volume,
- Fastenal's short sale volume was **2 times** its average daily volume, and
- Mattel had 65% more short sale volume than its average daily volume.

The Last Hour of Trading

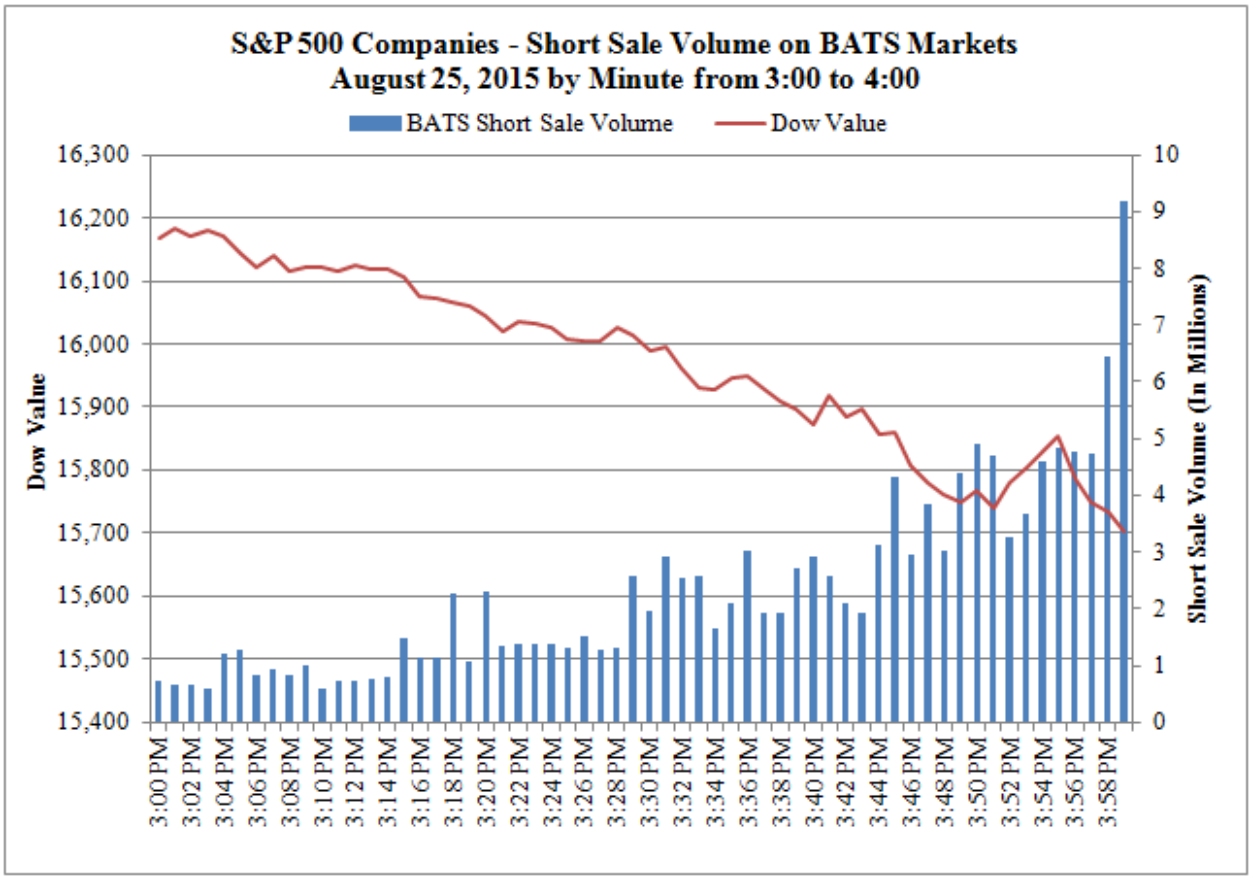
In the previous comment letter to the SEC, we discussed the excessive short selling in important ETFs and blue chip securities. The available data from SROs/reporting markets for August 25th shows short selling significantly increased during the large point decline in the last hour of trading.

BATS markets publishes short sale data in a format that can be viewed by time of trade. On August 25th, on the BATS markets 63% of SPY shares were sold short (51 million shares). The last hour of trading accounted for 33% of the short sale volume. The last hour of trading was weighted very heavily with short sales.

Similarly, on the BATS markets, the individual S&P 500 securities as a whole shows 140 million shares or 36% of the day's short sales were executed between 3:00 to 4:00 pm. By contrast, this is virtually double the short selling in the first hour of trading.

Chart 7 shows the short selling for the S&P 500 securities in the last hour and the decline in the value of the Dow.

Chart 7 – S&P 500 Companies Short Sale Volume on BATS Markets on August 25, 2015 from 3:00 to 4:00 pm



Regardless of theories from commentators and market pundits, the data suggests the markets were forced down at the end of the day by high-speed aggressive short selling that may not have been executed in compliance with U.S. laws, rules and regulations regarding short selling. Thus, the effects of short selling in the blue chip securities on August 25th from 3:00 to 4:00 pm should be a focus of regulators.

Conclusion

In our initial comment letter to the SEC regarding ETPs, we included data from the industry that showed:

- 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.

- 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).
- Viewed holistically, the 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*.

This update shows a stress test of ETFs that occurred on August 24, 2015 and many failed:

- When the market became stressed, the Authorized Participants/market makers *again* walked away from the buy-side of the market and many ETPs collapsed.
- Several important ETPs, including those based on the S&P 500 companies, became unhinged from their index and underlying asset values and triggered circuit breakers. The circuit breakers did not cause a trading problem; they simply **signaled red flags** of the underlying structural problems within ETPs.
- ETPs are vulnerable to collapsing under stress and the risk is that they may not recover from future collapses.
- Some of the risks that have been omitted from ETP operators advertising and prospectuses were evidenced on August 24th when ETPs declined significantly from the value that is based on their underlying stocks. These risks are required to be disclosed by the issuers of the products.

Simply put, the data continues to show ETPs are dangerous products to the financial system and are risky for investors. Moreover, even the ETPs based on the U.S. blue chip securities are systemically risky. Derivatives that are putting the heart of the capital markets in jeopardy are not in the public interest.

What if the SPY, which is the most heavily traded security in the world, disconnects from the underlying securities in a severe stress event, like its sister ETF the IVV has twice? The outcome would likely be chaos throughout the underlying securities, subsectors of the securities, futures, E-Mini futures, options, swaps and other derivatives.

On August 24th and 25th, not only was the short selling high across the S&P 500 companies and all of the exchanges, but also across all market sectors. As an example, Tables 9 and 10 show blue chip companies representing various components of the economy being shorted at massive levels.

The volume purchased/sold in the last hour of trading on August 25th caused the decline of approximately $620 billion in market value. It is obvious that investors (pension and mutual funds and retail investors) are not having a large effect on the volume or direction of the markets. Computerized algorithmic/HFT is influencing the markets.

It is the SROs congressionally mandated duty to maintain and enforce the U.S. laws, rules and regulations. If they are, they should be asking the questions of how the short selling is being executed: which firms are providing the locates for the short sales and are shares being borrowed and delivered to the purchaser to complete their contractual obligation? If laws, rules and regulations are not enforced, the financial conflicts of interest between the SRO/exchange structure and the investing public is not in the public interest.

In 2008/2009, the U.S. taxpayers recapitalized the financial system when it was on the brink of collapse. The systemic risks from ETPs shown in the data suggest this scenario may face taxpayers again if the industry does not disclose the risks from their products and help regulators understand and mitigate them.